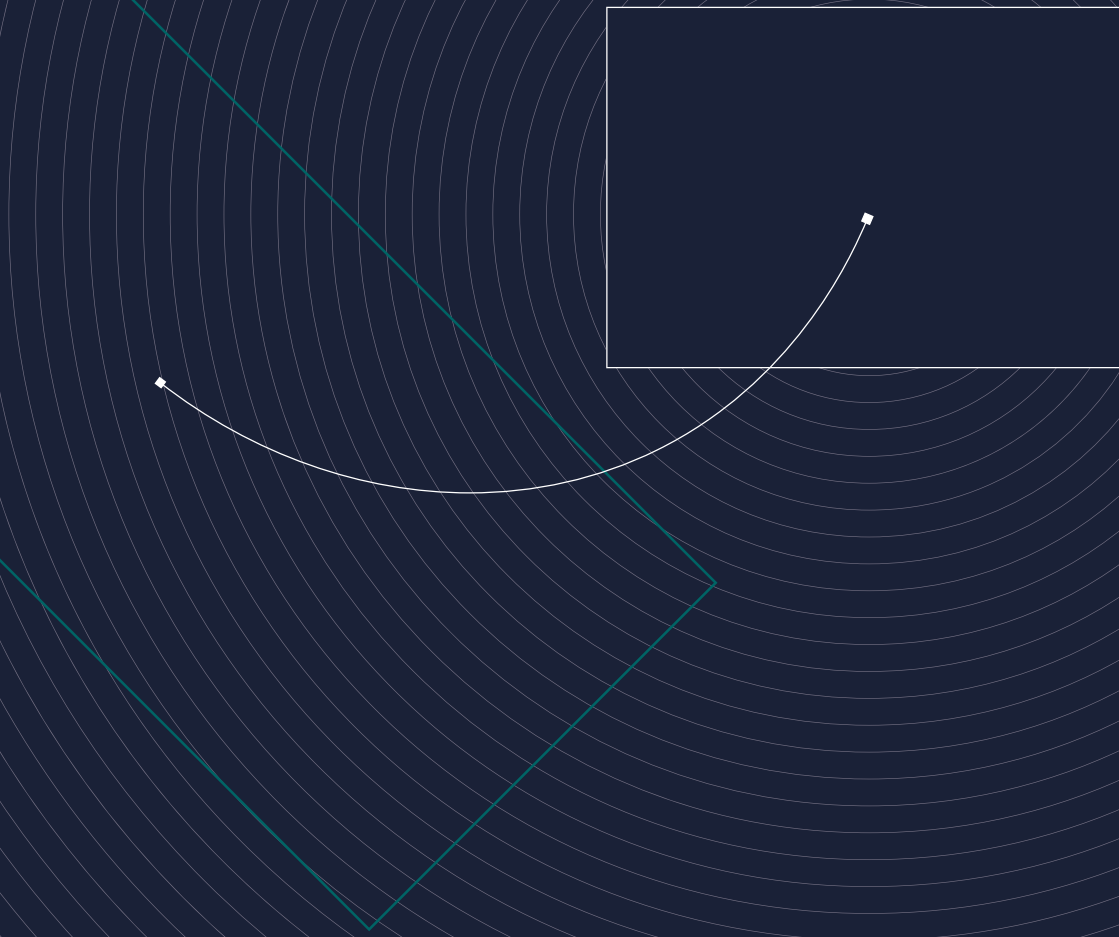
Misael Rojas Terraza

MUSEUMS AND DIGITAL DEVICES

Towards the open access of museums and user engagement through digital devices.



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Master's thesis
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Master of Arts thesis abstract

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Abstract

This thesis presents a design proposal for a mobile application for museums to give users open access to their material.

First, the origin and current context of museums and digital media were studied. In addition, as a way of proving and finding more details on the implementations of digital technologies in the museological space, this research takes the Helsinki City Museum as a case study. In this case study, different points are proven and discovered to be taken into account for the design proposal.

After studying the current context of museums and knowing more details about the reality that museums face after the case study, this thesis proposes to design a digital service that runs under three main views: open access for museums, accessible for users and the relevance of this service as a cultural source.

The proposal consists of the workflow and wireframes of both ends and a prototype that uses data gathered from the Helsinki City Museum.

Keywords open access, digital devices, digital services, mobile applications, user interface design, museums, museum experience

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Preface

In Chile, I worked on teaching art history and had a special interest in how important it is to engage students and open their eyes to knowledge. Naturally, at Aalto University, I started to leave teaching and art history behind to involve myself in visual and digital design. After a while, an interest in art and museums reappeared and I embraced new media through it. Hence, I started to see in new media a solution for a missing piece that I often felt while visiting museums, a piece that the students that I worked with and I could have used to improve studies and leisure time.
After taking studies on service design, prototype, user-centered design, and usability, I came with the idea that this missing piece could be a digital service, in part a mobile application, where users can access information on the pieces exhibited in any museum. That missing piece is the project of this thesis.

The initial aim of this thesis was to design a generic digital service platform that would be open for museums to create their online presence and upload their collection and data for people to see.
The starting plan for the process of this thesis was to research thoroughly up to three case studies, being these different kinds of museums such as art, natural history, and so on. The idea of researching and analyzing different museums was to have a picture big enough that would allow me to build the mentioned idea of a generic platform for museums. But due to my time frame, I decided to change the original plan and take only one museum as a case study, making this thesis the first step of a bigger project that I wish continues in the future.

1. Introduction

Under the initial question of, how can museums approach the use of mobile devices to enhance visitors' knowledge of their collections during a visit? This project attempts to find an alternative channel to museum visitors' information consumption and proves the need for technology for this alternative. This alternative, through the use of mobile devices such as phones and tablets as the main resource, embraces the use of technology under the museological space. Allowing the chance of engaging visitors with an interactive and information-detailed platform where they can develop their knowledge and studies.

So far, there is plenty of mobile application on museums, most of the existing museums' approaches on digital services lack accessibility and detailed information about their collections. It is possible for museums to approach the use of technology in order to enhance the delivery of collections' information to visitors.

The project aim is to propose a digital service that will work as an intermediary between the visitor and the museum. The outcome is the design proposal of a service that gives visitors the required information and also to be a learning tool for further studies.

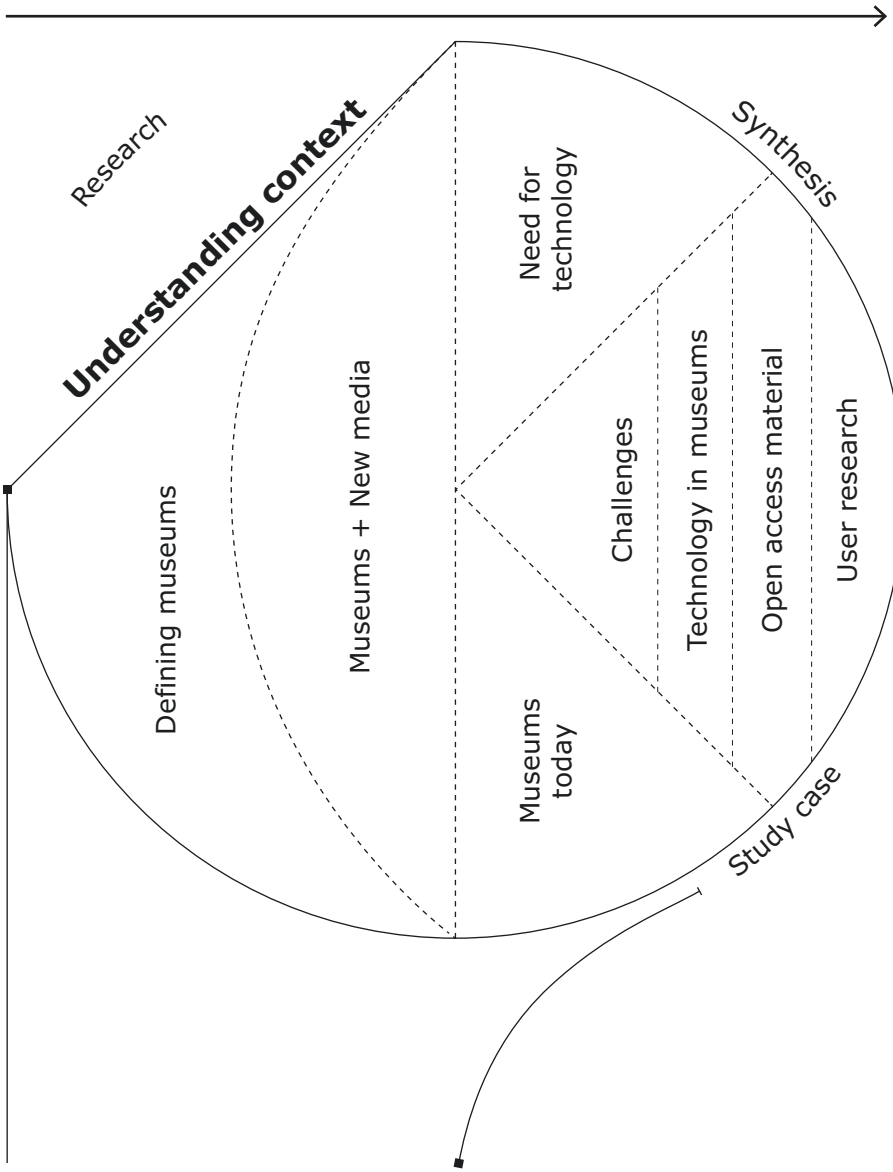
Naturally, as an effect of the background mindset of this proposal that will be discussed further later on the thesis, the idea of this design is to be an open access platform. Due to the financial reality for most cultural institutions, the design of a platform meant to be open to use and customizable by different institutions is needed.

Today, this project is relevant for the following reasons: the rise of the use of digital devices, the importance of digitization of archives, the engagement of visitors to cultural exhibitions, events and activities, the pursuit for a sustainable option for museums to deliver information and also the funding issues on these lasts.

This thesis is divided into three main sections and they correspond to the creative process towards the ideation of

the design:
In the beginning, the concept of "museum" was analyzed and understood. Followed by an analysis of how museums have changed after the integration of different technologies over the years. Consequently, the use of technological devices is proposed due to the rise of mobile devices and new media in the contemporary world.
Afterward, The Helsinki City Museum[1] was studied in order to address the use of mobile devices and technology as tools for public engagement.
And finally, after reflections on the needs of mobile application users and understand the origin and background of a museum, a digital service is proposed. This is a digital service that works as a solution for the initial problem.

Throughout this thesis specific terminology is used. To make a clear statement of the text, main concepts such as "museum" and "new media" require an in-depth definition because of their relevance on supporting this thesis, those concepts will be developed further in the initial chapter. An introduction to other relevant concepts is given in the following paragraph.
Firstly, when the concept "mobile devices" is used, it includes smartphones and tablet computer. More specifically, portable electronic devices that are meant to be carried by the hands of the user. In this case, laptops and smartwatches are excluded for the sake of simplifying and focus on the interface design of most popular devices in the context of museum visits. In addition, there are "mobile applications", software designed to function in mobile devices. The aim of this thesis is to design a prototype of an application. Thus, along with the thesis, the word "prototype" refers to the deliverable of this project, which is the design of the mobile application that can be tested through an online test platform. Although the visual identity is completed and the workflow can be tested, the product is not going to be developed to fully function on its own.



Process of this thesis

Ideation
Prototyping
Benchmarking
Ideation
Conceptualise
Formulating proposal
Design wireframe
Build
Test
Opportunities for ideas
Iteration
Find solution

2. Context

This initial chapter is focused on introducing the concept of "museum" and the current context in which is placed, the changes that it has suffered from the appearance of new media and what are the approaches that some museums have towards the evolution of technology. In other words, this chapter gives us an understanding of contemporary museums and their challenges. In addition, an answer is given to the problem of why museums today need the use of technology for themselves and their users.

2.1 Defining museums

In this section the definition of museums will be discussed, how they work and their purpose. Because of this, it is necessary to clarify exactly what is meant by "museum". The International Council of Museums (ICOM) has defined museums as "a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment." (ICOM, 2007). This definition leaves us with a clear image of what a museum is and its roles: service to society, open to the public and exhibit what they preserve. Furthermore, UNESCO (1960) states that museums have a "general interest for the purpose of preserving, studying, enhancing by various means and, in particular, exhibiting to the public for its delectation and instruction, groups of objects and specimens of cultural value." (p.124). In addition, Hooper-Greenhill (2000) comments that on the late nineteenth century museums were seen as an educational tool with a significant social role (p.2). The educational and preserving roles of museums are the main functions, serving as an important entity when it comes to share and study our cultural heritage.

As said, an important part of museums is its role around cultural heritage. Cambridge Dictionary (2019) defines heritage as "features belonging to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still have historical importance". Thus, museums share cultural heritage through their collections in exhibition spaces aiming for "the increase of knowledge and for the culture and enlightenment of the people" (Goode 1895). The role of the museum is to be an educational tool for the society that visits them. These visitors have the chance to acquire knowledge and awareness of historical and cultural heritage during the stay in the exhibition spaces. Furthermore, regarding the experience of these spaces Bennet (1995) commented:

Within each room […] assembly of paintings and other historical artefacts accompany the elaborate accounts which summarize the main events of the period concerned and explain their relations to one another as well as their connections to those of earlier or later periods. This way, the museum functions as an ensemble of narrative elements which the visitor […] is able to rehearse. (p.184)

Hence, museums enable visitors to create a connection between the exhibited artifacts to understand and acknowledge the topics exhibited. This learning process is supported by historical artifacts themselves and also by elements that museums deliver prior to and during visits. Therefore, after observations made, we can divide the visit to a museum on two times according to when the institution and potential visitors meet: outside and then inside the museum spaces.

Firstly, potential visitors to museums are in touch with the institutions prior to even planning a visit. Through traditional advertising and digital media, such as websites, Facebook, Instagram, Twitter and any other social media where an advertisement can be placed or posts from users containing material from the museums.

Afterward, during the visits, the information about the collection is delivered through different channels: the pieces make connections among themselves, catalogs with documentation and further analysis of the exhibition are shown and also tags with hard information of the pieces. In addition, some museums have been starting to use mobile devices as another way to inform guests.

A mobile device opens many uses and permits many alternatives on how to approach museum visitors. Moreover, these characteristics allow the museum not only to inform about pieces of the collection but also to engage the visitors with other cultural activities and linking their experience with social media. Further, mobile devices are a resource commonly used to engage young visitors, conceding attractive perspectives on what a visit to a museum is. In addition, mobile devices show new visitors alternatives about how the exhibition information can be

visualized according to their age and interests. The use of mobile devices, such as phones and tablets, will be explained in more detail on the following sections.

This definition of museums and their use of mobile devices corresponds to a broad definition of them. Some museums are likely to apply more digital resources, others fewer on none. The present thesis addresses this topic and analyses a museum. It describes the general vision and aim of each institution and explores the presence of digital mobile devices, as well as their engagement and challenges on them.

2.2 Museums and new media

The rise of new media is a fundamental property of museums nowadays. "New media" can be loosely described as the media based on digital technology, such as computers, phones, the internet, bodily interactive installations, and so on. "New" in comparison to traditional media as in newspapers, magazines, radio, and television. Leinonen (2010) introduces new media as the convergence between computing, media and networked communication (p.73). This means that the three axes are essential for new media to be, but most important, expose how significant is the role of digital technologies on the appearance of new media. Furthermore, according to a definition provided by Manovich (2001), new media is the result of the adaptation of traditional media into numerical data for computers. He incorporates key aspects that differentiate new media more. One of these refers that new media can be described using algorithms and be manipulated, in other words, new media is programmable (pp.44-49).

Then, when it comes to the appearance of digital technologies in museums, a significant process is the translation to digital media. Manovich (2001) describes the process:

Converting continuos [sic] data into a numerical representation is called digitization. Digitization consists of two steps: sampling and quantization. First, data is sampled, most often at regular intervals, such as the grid of pixels used to represent a digital image. Technically, a sample is defined as "a measurement made at a particular instant in space and time, according to a specified procedure." The frequency of sampling is referred to as resolution. Sampling turns continuos [sic] data into discrete data. This is data occurring in distinct units: people, pages of a book, pixels. Second, each sample is quantified, i.e. assigned a numerical vale [sic] drawn from a defined range (such as 0-255 in the case of a 8-bit greyscale image). (pp.49-50).

Thus, through this process, all the archives have a digital version. This new version requires that the museum, in

this case, add new experts on their field. This way, the evolution of technology incorporates changes into different areas, such as in curatorship, preservation, investigation, and so on. As a result, the past decades have seen the development of museums in many ways. Without a doubt, technology has been serving museums as support for study and preserve their archives. Museums such as MoMA, Guggenheim and even Didrichsen in Helsinki, to name a few, have all or most of their archive collections digitized. This practice helps on the preservation of the pieces and also places the first step for several digital services to develop. Regarding this, Axiell ALM and Museum & The Web (2016) show on their report that "it is important to note that digitized collections can act as a showcase for museums and generate interests that will eventually lead to a physical visit."(p.10). Thus, the use of the digital character of museums serves as a tool to approach visitors and make the museums expand their reachability to attract more visitors. Moreover, Vaz, Fernandes & Veiga (2018) observe that a way to engage and interact with people is to involve them as online users and leave behind the physical barrier of traditional museums (p.45). Regardless of how beneficial the use of technology sounds, it calls for several requirements to function. It needs to understand the visitors integrally, with all their differences and needs. Besides comprehend how unique each museum is, not only for their physical structure but also because of their collection and target group they aim.

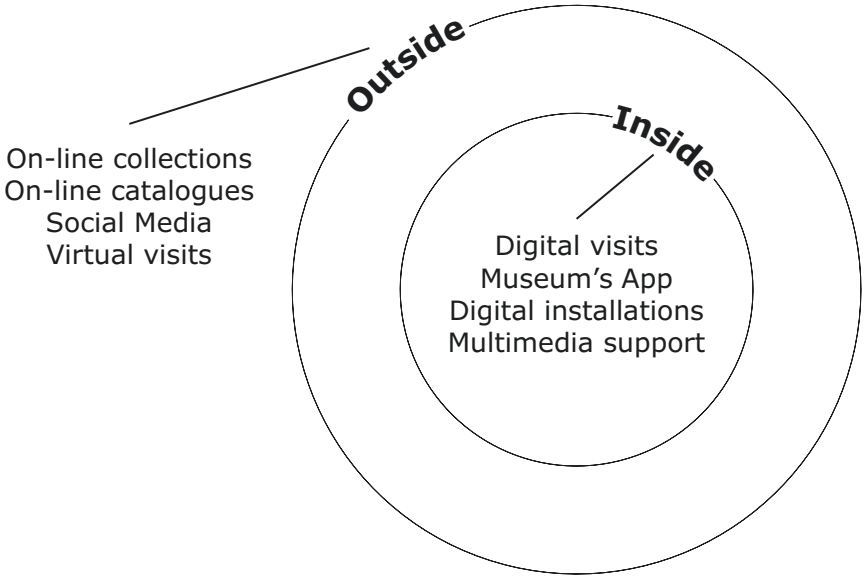
Caused by the digitization in the modern era, it does not come by surprise the cultural changes with it and the rise of digital devices. As Manovich(2001) states: "the computer layer will affect the cultural layer. The ways in which computer models the world, represents data and allows us to operate on it [...] influence the cultural layer of new media: its organization, its emerging genres, its contents."(p.64); How this affects the work on museums? The ramification of cultural changes makes cultural organizations keep up with the ongoing advance of technology and the interests

of the public to engage and gain visitors. As a result of this, museums have been challenged to improve their technological resources and immerse themselves into the use of these tools to develop their exhibitions. As Leinonen (2010) presents: "The new digital technology made it possible to explore new forms of media that are interactive and also able to emulate and remix all existing media formats and technologies"(p.72). This is why in the last decades we have witnessed many different solutions that museums have ideated to enhance the exhibition experience through new media resources. For instance, screens with a map of the museum, touch-screens and/or tablets with maps and exhibition information, augmented and virtual reality in different scenarios, installation sensible to body movement and so on. There are plenty of different ways of using new media in museums, a couple will be analyzed further in the case study.

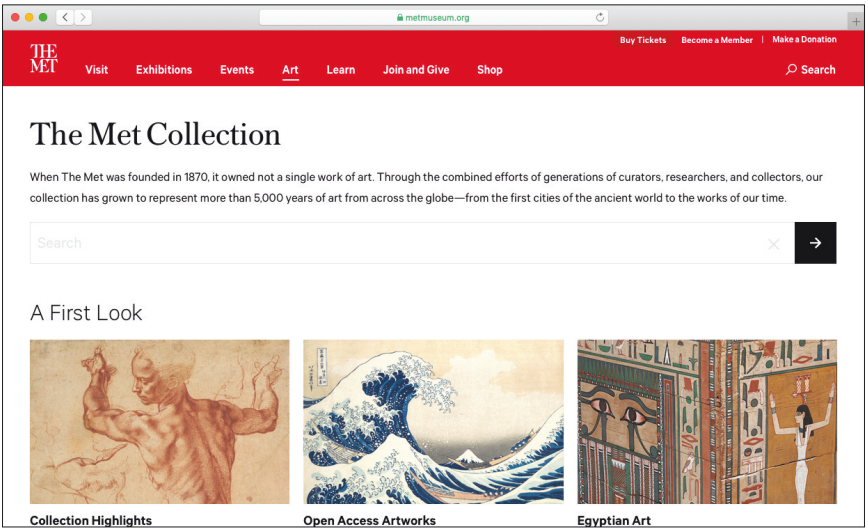
2.3 Museums today

The last section has demonstrated that digital technology had made an impact on different layers, affecting museums and the way they work. It is now necessary to explain the course of museums today after the integration of technology and how they approach the digital services towards their visitors.

As said earlier, museums and visitors meet in two different times: outside and then inside the museum [Fig. 1]. Firstly, the digitization of collections is shared through the internet. Most of the well-known museums over the world have their collection digitized, and most of them with open access to the public. Museums such as The Metropolitan Museum of Art (The MET) in New York city owns more than 406.000 artwork images of public-domain, free to download and use [Fig. 2]. On the other hand, The State Hermitage Museum in St. Petersburg[2] also owns an online archive of their collection but with their quality and use



[Figure 1] Categorisation of times where museums and visitors meet.



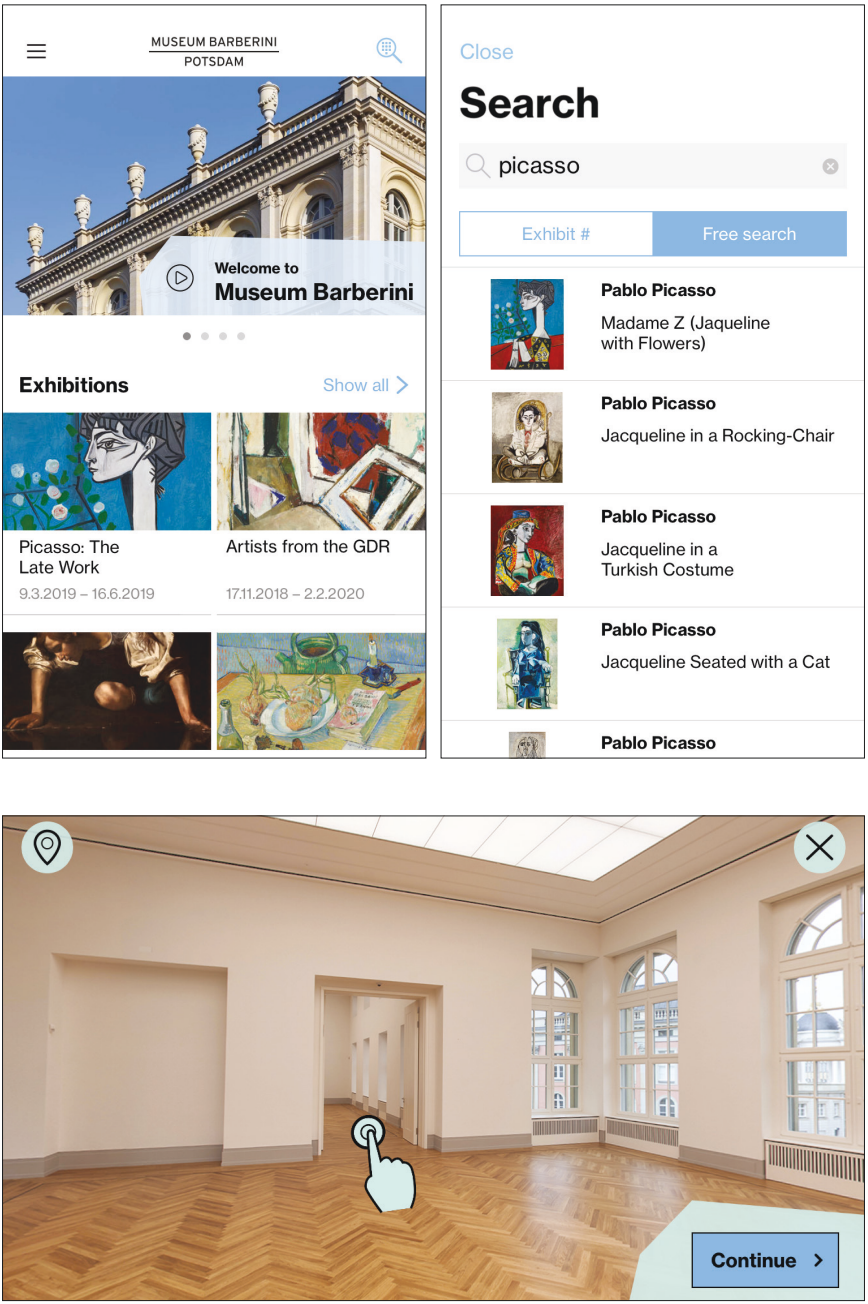
[Figure 2] https://www.metmuseum.org/art/collection

restrictions. At the same time, smaller museums such as Didrichsen Museum in Helsinki, owns an open photobank with over 1.000 pieces in their website[3]. This source not only benefits their users but also helps museums to showcase all their collections. By way of illustration, Vaz et al. (2018) comment that "at the Lille Natural History Museum [France], visitors can discover the collection of more than one thousand mineral samples of the collection - that cannot be in exhibition due to lack of space, while ensuring their conservation."(p. 42). This way, the use of the website supports the users to view the collection but the same time the artwork documentation serves as raw material to create other resources such as mobile applications, digital visits, and so on. For instance, the implementation of digital visits has risen among museums. Two of the previous museums named: The MET and The State Hermitage Museum, have on their websites their floors plan where the user can browse and get information about galleries, different collections and the artwork that

each room exhibits.
These previous examples show that digital resources can be used as a connecting point between the museum and a potential visitor. The possibilities that this gives is not only an educational element for the person who uses the website but also a chance for the museum to engage with them and increase the chances of attracting more physical visits. It is good to comment that these two channels (online collections and digital visit) are not the only possible channels to establish a connection with potential visitors because there are also plenty of social media resources that museums nowadays use to attract people. However, both exposed here have the teaching background and academic potential use and not only an advertising aim.

The second classification of time where museums and visitors meet is in the physical space, the museum itself. In their space, museums have started using technology to engage visitors and enhance their experience. They are many ways in which the museums use technologies for this purpose, such as Augmented Reality (AR), Virtual Reality (VR), digital maps, touchable digital pieces and so on.
It is important to clarify that when we talk about these technologies it is focused only on the services that museums provide and not the artwork or pieces that the museum might own on their collection.
Now, examples of these "emerging technologies" (Freeman et al., 2016) will be shown and analyzed.

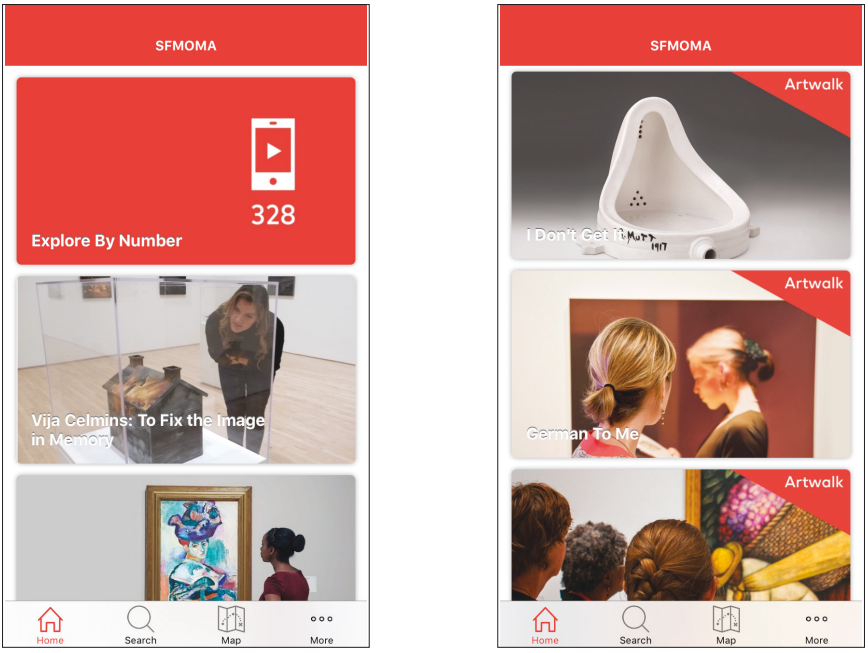
Museum Barberini - Barberini App [Fig. 3]:
The German museum earned an award-winning app which shows brief information of past, current and future exhibitions, additional information and news about the museum and also the possibility to buy a ticket on the app. In addition, it owns the map of the building and a feature that gives the users a virtual visit through the museum on 360º using the gyroscope of the phone.
When it comes to information, the application lets the user navigate through their artists, read or listen about



[Figure 3] Barberini App's screens

the artworks exhibited supporting digital education and the possibility to access this information online. In terms of the aesthetic, the design is simple enough to enhance the relevance of the information that it gives and also don't obstruct the user interaction.
The Museum Barberini takes this digital guide with a "Bring Your Own Device" (BYOD) approach, this means that visitors use their personal devices to navigate through the mobile application and museum. This started in 2005 by a group from Marymount Manhattan College where they produced their own downloadable audio tour for the Museum of Modern Art (MoMA) in New York. Consequently, the use of devices such as iPhones and iPods started to rise afterward (Axiell ALM and Museum & The Web, 2016).

San Francisco Museum of Modern Art [Fig. 4]:
The "SFMOMA Audio app" has many features that made it one of the most relevant mobile applications for museums



[Figure 4] SFMOMA Audio App's screens

in the past years. It contains the map of its seven floors, information about many of the pieces that they own and one of the most important features are the "Artwalks". Artwalks are audio guides which guide the visitors not only through the museum but also it teaches further the walls of the museum. In addition, when the visitors are in the museum, the application updates its location inside giving the chance of listening to audios of the closest artworks.
Similar to the Barberini App, now we can see how immersive and location-based museum applications are starting to get. It tells us about how technology is blurring the lines of its usage going towards an immersive implementation.
Unlike the Barberini App, the use of SFMOMA Audio application is based only on the location. This means that the archives from the collection can be accessed only through the number given to each piece on the exhibition. This disables any person that wants to use the application to navigate freely through the collections while being outside.

Both examples of mobile applications have shown that museums are integrating mobile technology and focus on their resources. Today, museums are exploring new techniques and technologies to enhance their visitors' experience on different ways: Museum Barberini is integrating people from different points into their physical space, touching the edge of virtual reality and placing people from abroad into their museum virtually. SFMOMA reaffirms the location of their visitors and immerses them into the information and collection, guiding them through their building and more. Nonetheless, all of these mobile applications have advantages and constraints for their users. Under the light of this research, the Barberini App is the most interesting. Firstly, because not only provides information for their visitors in-situ but also it opens the opportunity to people from practically everywhere to access and study part of their exhibitions and collection.
What museums are doing today is to see mobile devices as an element that can be used as a channel to deliver their

information and engage future and current visitors.

In addition to this context, Google has been producing Google Art Project[4] that takes care of generating an enormous photo bank with high definition documentation of different pieces from museums all over the world. This project owns a big number of pieces, it is free to access and is building virtual visits to rooms of different museums but its focus is mainly on large well-known museums and collections. Moreover, in Finland, there are only three museums on their database and these are Espoo Museum of Modern Art, Alvar Aalto Foundation and Ateneum Museum. Hence, what happens with small museums or well-known museums under the Finnish context that are willing to develop projects like this but are not taken into account under the universal radar?
The implementation of projects such as digitization of collections, uploading archives to a server and having different technological devices on their premises for visitors to use is always attached to the fact that these procedures and elements require funding and maintenance of all the different points that they need to work such as personnel, equipment, and maintenance. These challenges of planning and implementing will be discussed further in the case study.

2.4 The need for technology

The studies presented thus far provide evidence that the rise of digital media has also affected cultural institutions. As a result, museums had to embrace this uprise of technology and use it to develop tools that improve their material consumption. As previously shown, museums over the world have developed "apps [that] can further heighten visitor experiences by providing more comprehensive materials, including multiple critical interpretations, stories, and contextual information." (Freeman et al., 2016, p. 16). Museums are making use of mobile devices in different ways to promote their museums and also give people access to different pieces and artworks that they own. Our current sociocultural context asks for digital implementations on every aspect of our lives due to the rise of its use and presence. Moreover, on their article Fildes & Villaespesa (2015) talk about the increase of the use of mobile devices in the TATE galleries during 2014 wherein both, TATE Britain and Modern, more than 80% of the users were carrying a smartphone, tablet or similar. As a matter of fact, a survey conducted in 2016 by Pew Research Center (PRC) states that only in the United States 77% of people over 18 years old own a smartphone. In addition, a second survey by PRC conducted in 2016, showed that people do not use mobile phones only to call, other nontraditional phone activities are increasing, such as reading, use dating applications, job search, among others. To emphasize, in 2014, PRC showed that a high percentage of people had the perception of smartphones as useful, connecting and could not live without them (Perrin, 2017). The results of these surveys tell us about the inherent need for mobile devices in the last decade. Lately, mobile devices have been spreading its use to many different kinds of applications, therefore, many needs and activities of people now are connected and based on technology. Because of this, various businesses, practices, and entities have had no other choice than updating themselves and implement technological tools to improve their activities.

As stated previously, museums and their visitors are not exempt from this evolution. Moreover, Vaz et. al (2018) declare that "the role of technology in helping to promote physical, cognitive, sensory, in short, cultural accessibility of museums exhibitions, supporting, on one hand, the dissemination of information about the exhibits and, on the other, contributing for an inclusive museum that are committed to providing outstanding learning experiences" (p.46). Hence, technology opens the necessary channels for people to access and connect with cultural heritage. Being these technological devices a common element today for people, the access to them allows a space that seems to be the most direct way of connecting.

Returning to the question posed at the beginning of this thesis, it is now possible to state that the most feasible solution for people to interact with cultural heritage is through an online and, consequently, a digital-based space. This interaction would be based mainly on two facts:
First, museums around the world are adapting their practices towards digital-based tools and generating digital archives from their collection and finding different outcomes in which these files can be accessed by different kinds of people. Second, there is a high percentage of people that own mobile devices or have access to other technological devices that grant a connection to different sources online. As a result, the call is for museums to establish and strengthen the digital connection between them and their users in and outside their physical spaces, destroying the physical boundaries and impediments in order to allow people access to cultural heritage, education, and knowledge.

3. Case study

This chapter explores and interprets The Helsinki City Museum [Fig. 5], located in Helsinki, Finland. Firstly, the museum is analyzed on secondary research and on-site observations, followed by a further analysis through primary research. As a result, findings were collected, categorized, analysed, and then used as a starting point for project ideation.
The aim of this analysis is to find concrete and reliable data to be used for the creation of the design proposal. Without this research, the design would lack a reliable foundation.

[Figure 5] The Helsinki City Museum. Helsinki, Finland.

3.1 Method

In this case study, secondary research was done as the first step. Hence, online information was gathered from websites and articles or existing research of the museum. On the website of the Helsinki City Museum is possible to collect data about their vision, archives, current programs that may include the use of digital resources, how their collection is handed, and so on. This first method gave an understanding of the overall of the museum but, at the same time, the amount of information depended on its online presence.

Following the online gathering of information, on-site observations were done. On this method, The Helsinki City Museum was visited to get an understanding of how the physical space is treated, how visitors interact and which resources do they use. Hence, the focus is on which guides for visitors are given, how are they designed and what is the relation between the museum and digital devices in its spaces.

After the first glance of the museum came in-depth research where the feedback from visitors was analyzed and interviews are made to the staff.

The feedback was gathered from January of 2018 until March of 2019 through "Questback", a system that collects feedback from users over questionnaires on a tablet in the museum.

And then, three unstructured interviews were conducted to five different people from the staff and the main points to talk on them were about the vision of the museum, the implementation of digital installations, the challenges and improvement it has and their point of view regarding open access to the museum and archives.

This process gave us a view of The Helsinki City Museum's ethos and the experience of their visitors, giving us the necessary information to move forward to the outcome.

3.2 The Helsinki City Museum

This case study sought to examine the challenges of a museum during the late technological rise to have a concrete testimony for the design ideation. In this case, The Helsinki City Museum (HCM) is the main entity on archiving and documenting the history of the city of Helsinki. Preserving and sharing the cultural heritage of the Finnish capital city, this museum exhibits archives such as photographies, videos and other documents to visitors with digital support.

This museum has been selected as a case study because one of their main ways of exhibiting historical archives is using new media, challenging the traditional perspective on an open museum.

The data for this study was collected using the online information and archives that the Helsinki City Museum has on their website, along with other online findings of this museum. In addition, the staff of the museum had kindly given access for this research to different kinds of qualitative and quantitative data from visitors and also interviews with people from their team.

The HCM was analyzed according to three different points that make it a museum that deserves to be recognized and also promotes the core ideology for the following design proposal. These concepts are citizen participation, open access and the use of digital tools.

Citizen participation

The Helsinki City Museum has been awarded Finland's Museum of the Year and the International Award on the Museum + Heritage Awards on 2017 for creating a community-focused space, making use of different approaches such as augmented reality, virtual reality and multimedia support on its premises in order to improve and engage the experience of visitors. Tiina Merisalo(2017), Director of the museum, commented that they "have succeeded in creating a new entity in cooperation with the city's residents." Using the citizen participation as the

foundations of the museum, the staff along with people of the city makes of this a human-centered project, which takes into account the users' [visitors] thoughts and experiences on the project development. As a result, a holistic conception for the museum was built. This is a project that not only takes care that the cultural heritage is transmitted nowadays but also how it is perceived and experienced.

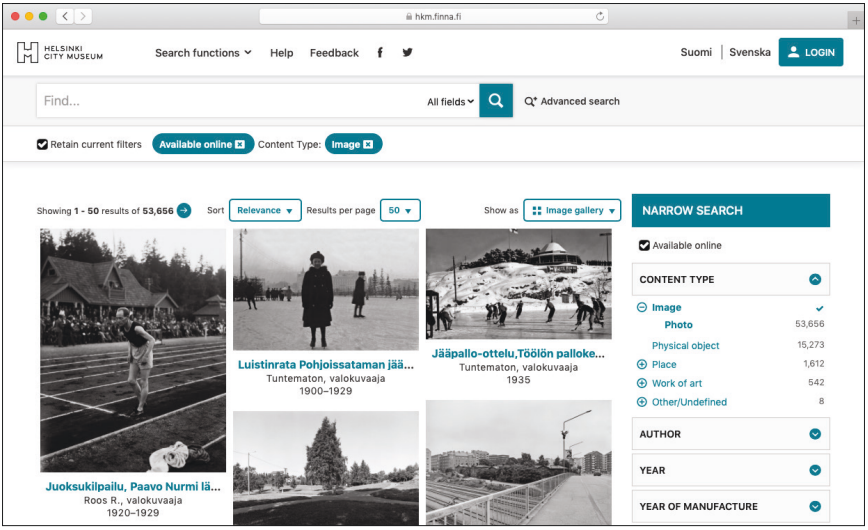
Open access

When asked about open access to their material, the staff interviewed pointed out that the base for this is Helsinki's organization emphasis on openness and transparency. The HCM managed to open its collection through Finna[5], an archival online database run by The National Library of Finland where all data from archives, libraries and museums can be accessed [Fig. 6]. This change on the system allowed people to use the database of the city freely generating a connection from up to down on the structure of the organization. Hence, the impact generated consists of an improvement on the museum's public image, adds value to it, and therefore, more visits digital and physically. What the Helsinki City Museum does is to remove the boundaries of accessibility. Moreover, they have created a platform called Helsinki Kuvia[6] [Fig. 7], which works with their Finna database, where they design a user-driven interface that allows people not familiar with data-driven interfaces, as Finna, to navigate and use the collection of the museum.

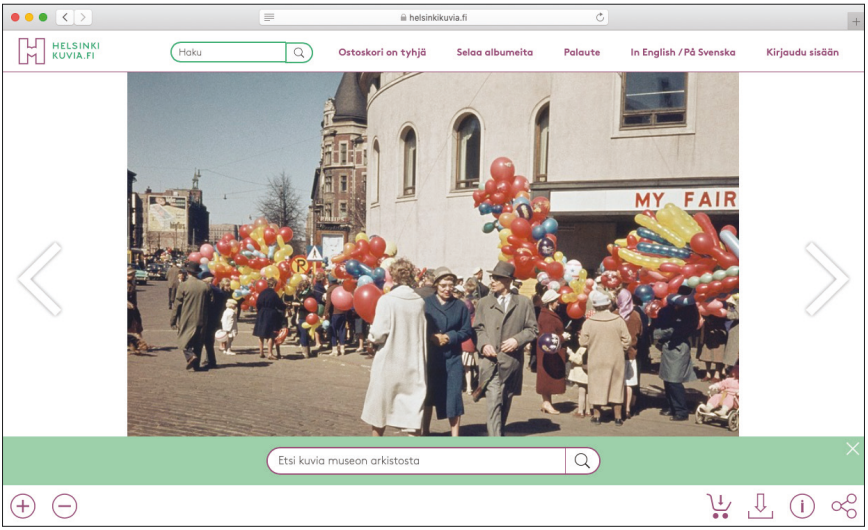
These actions, together with the possibility of using the museum's computers to browse through the archives, are highly relevant to the social aspect. This transcends transversally, granting an educational source to everyone willing to access.

Digital tools

According to the Helsinki City Museum experience, implementing digital installations improve museum visits. Technology creates experiences and encourages



[Figure 6] https://hkm.finna.fi



[Figure 7] Helsinki Kuvia, www.helsinkikuvia.fi

their visitors to participate, share experiences among themselves and involve them on to the learning experience in the museum. In this case, the museum has two main installations on their premises: at first, a projection of panoramic photographs of the city of Helsinki where the users can contrast them with the present and also navigate through the photograph recognizing and naming of different points in the city [Fig. 8]. Secondly, there is an Augmented Reality game that uses a scale model of the city on the background. The game, developed by the company Exove, makes the user identify different places of the city while goes through dialogues with characters and trivia [Fig. 9]. In an interview with HCM, part of the staff commented that a difficult factor of collaborative projects, like this one, is to find the right use of technology for the purpose that the museum intents. Understanding the background and context of the museum is an important component in the implementation of projects that require external contributors. It is highly relevant for the museum to use these new technologies based on their vision with an idea of what the user gets out of it and not only develop installations for the sake of using technology. The role of technology must be to enhance the museum's vision and its visitors' experience under that context.

Previous points had shown high benefits of using technology to enhance and allow open access to museum users and visitors. Despite this, in practice, there are a few factors that need to be taken into account when thinking about integrating digital tools. Firstly, when it comes to granting open access to materials online, it is necessary to keep in mind the background work. The digitization of collections requires a big investment that costs a lot of resources to the museums. Being that said, one of the main roles of museums is to preserve the heritage of humanity, so it is a job that needs to be done to follow the next step of sharing and exhibiting these pieces (ICOM, 2007). Once the photobank is complete, copyrights' terms and licenses should be worked. As an example, in the initial stage of

[Figure 8] Panoramic installation at the Helsinki City Museum.

[Figure 9] Augmented Reality installation at the Helsinki City Museum.

their digital collection, to use the Helsinki City Museum archive a fee was charged to people. The museum, after taking into account the process and the alternative to open their material, realized that it was not profitable to charge for the use of images taking the current decision motivated, also, from the museums' law and their vision of sharing and pass on their work.
Second, when installing digital devices it is needed to take into account installation, developing and maintenance. This adds to the museum the need of integrating more personnel and positions to their inner structure, therefore, adds another layer of costs and planning for them.

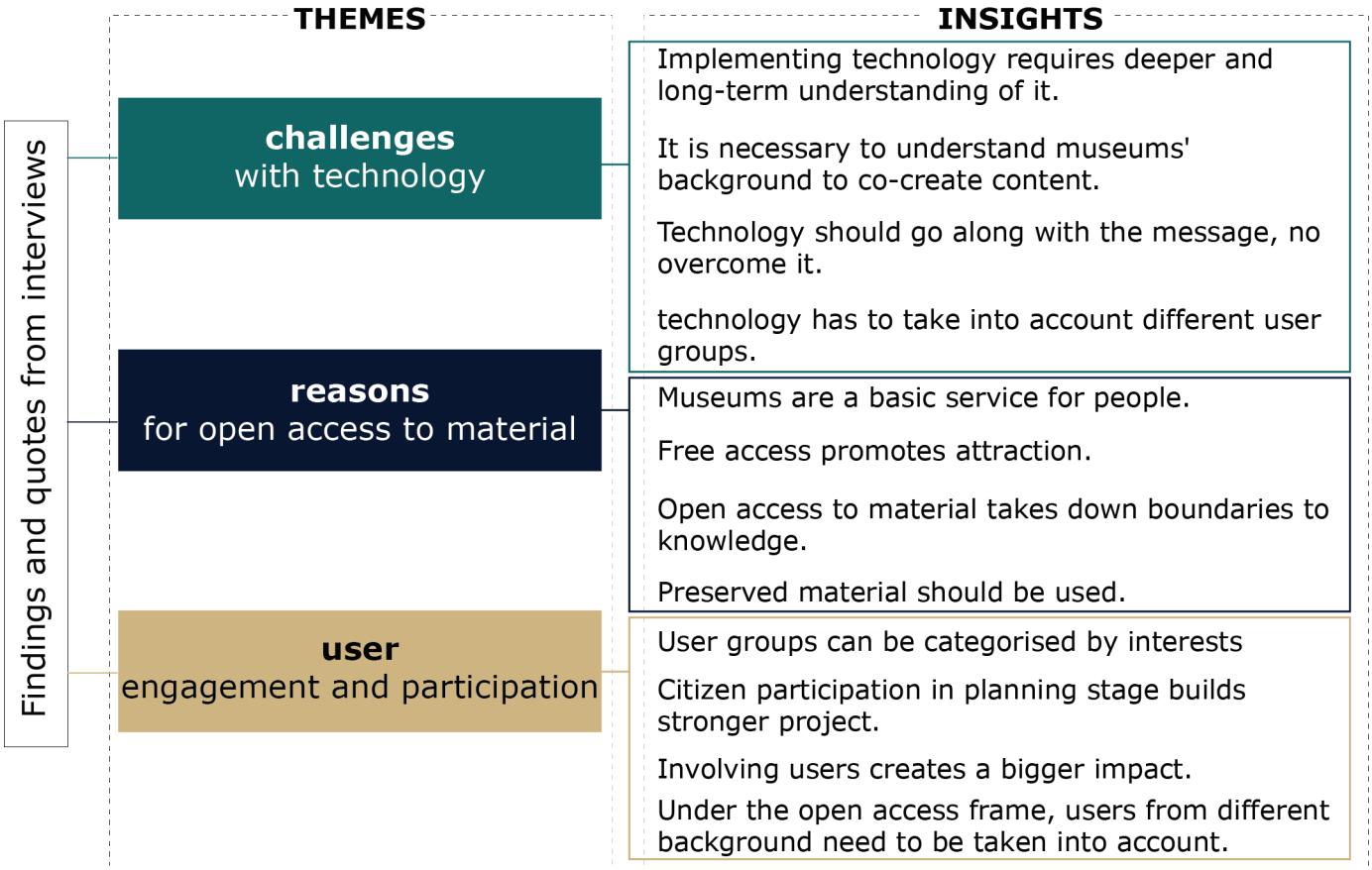
The results in this chapter indicate that museums can work towards a digital openness of their collections. This generates a recognition, engages people with their material and rise potential visitors. In addition, people get benefited from this in many ways. The free license creates potential businesses, use for educational material, and more. Simultaneously, creates an impact on other areas working as a bank for elderly people to reconnect with their memories and young people to connect with the past. Equally important, the use of digital devices in the museum improves the engagement of the visitors and creates an experience that also educates. The generation of experiences makes the museum visit more appealing to different users and also creates a discussion among themselves.
However, the implementation of these changes demands different requirements. Firstly, equipment costs are high and, in addition, require maintenance and a frequent update generating a bigger investment in these kinds of devices. Following this, it is necessary for museums to have experts on their staff that are able to repair said devices. Otherwise, the malfunction of installations can be disrupting the intended visitor experience.
The implementation of open access and the use of digital devices on the museological context have their opportunities and obstacles. Nonetheless, it is the most assertive way to

embrace the use of mobile devices and guide them towards a cultural source.
This case study had helped us to learn from a real working example of these implementations. The next section, therefore, moves on to an analysis of findings and insights to later move on to a design proposal.

3.3. Findings

The results of this study have shown several points that will be discussed and analyzed. Firstly, a table that categorized and deliver insights from interviews is shown. After that, different points from visitors and their feedback and experience in the museum are visualized.

The research consisted of three unstructured interviews with five different people from the staff of the Helsinki City Museum. The interviewees are involved in the following areas: learning and wellbeing, audience services, visitor engagement, and collections. Thanks to the background of each person of the staff, the interviews provided different approaches to the main topics of this thesis.
The interviews, of around one hour each, were audio recorded and transcribed. Then, they were analyzed and categorized according to information from different interviews that overlapped. This fact led us to take them as important points that on the following table are shown as "theme" to then form insights as results [Fig. 10].
To respect an initial privacy agreement with the interviewees, quotes from the interviews are not shown. But at the same time, the table shows the path, categories and final insights of the process. Along the conversations, it was possible to identify that the main concepts of this thesis were also relevant issues for the HCM's staff, that is why the themes match the topics of technology in museums, relevance on users and open access material.



[Figure 10] Categorization and insights

The following illustrations show an overview of the data gotten from visitor's feedback gathered from January of 2018 until March of 2019. These images give us an overall perspective of the visitors and their interests and vision towards the Helsinki City Museum.
The most obvious finding to emerge from the analysis is that the "Children's town" exhibition is the most popular but at the same time there are relevant numbers that show interest for the “Time Machine” and the main exhibition of the museum. The first one being a VR experience and as the main exhibition is highly supported by digital devices. It tells us, along with the comments, that visitors take into account these elements as an attracting point. In addition, if we take into account the previous statements about the use of technology nowadays and the age of the visitors, we can state that the possibility of implementing a mobile application for them is feasible.

Place of residence

Despite being a museum focused on the city of Helsinki and Finnish culture, there is a high number of visitors coming from abroad. This fact tells us that the interest in the museum is not only by citizens but also by tourists. This leads us to think about how open the material of the museum should be in terms of language and accessibility.

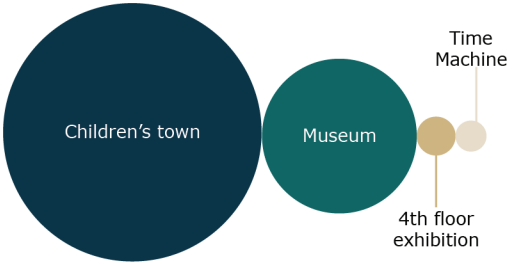
FINLAND (877)
243 Outside metropolitan area
151 Metropolitan area
483 Helsinki

+

OTHER COUNTRIES (410)

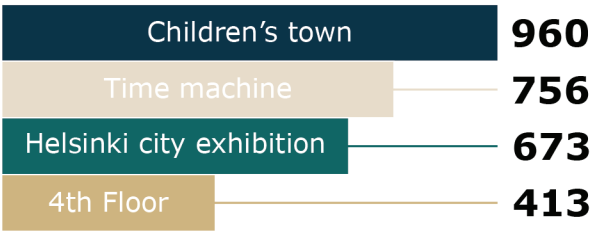
REASON

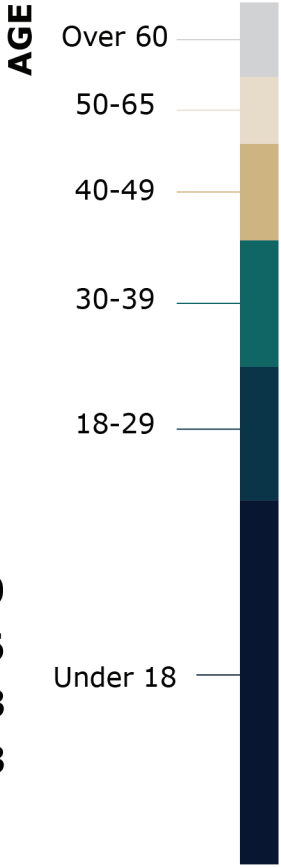
Primary reason for visiting the museum



VISIT

Places visited





REVIEW

Probability of coming to the museum again

4,05/5

Regardless of having only one space for temporary exhibitions, the HCM has found a way to engage visitors to ensure a high ratio on chances of them coming back to visit the museum.

In summary, these results show that the implementation of digital services is feasible. The type, age, and interests of visitors tell us that if a mobile application is proposed there might be a high number of visitors that are able to use it. The challenge is to attract visitors to use new services in and outside the museum.

3.4 Reflections

An initial objective of the case study was to identify concrete and reliable data in order to address the use of mobile devices and technology as tools for public engagement.
The insights gained from this study may be of assistance to take into account when building and ideate the design proposal. Even though that the study did not go further into the perspective of users towards mobile applications installed in the Helsinki City Museum, the comments from them and data such as what they enjoyed the most, what they visited and the reasons to visit tell us about their preferences and interest. At the same time, data from them along a year of feedback told us that there is an interest in digital elements and technological support on display. In addition, the feedback showed a big attraction, engagement and willing to participate in activities that are free and open to everyone, which is the main core of the HCM.

Although this study focuses on the use of digital devices, the findings may well have a bearing on the perspective of user involvement. What is surprising is how the Helsinki City Museum has built a big part of its way of doing backed up by citizens that participate in their planning. The relation that the museum's inner system has with the citizens involves them on active participation, not on total control of decision but taking into account their thoughts and social context. It is relevant to notice that this also enhances the idea of openness on a museum, perceiving the institution as an open field that can be reachable, engaging and where voices can be heard.

As a conclusion, the results of this study indicate that the perspective of openness on a museum allows having a holistic perspective on users. Acknowledging this grants the museum a tool to build and implement other resources in an assertive way. Moreover, knowing their users and their own background, museums can be able to create a

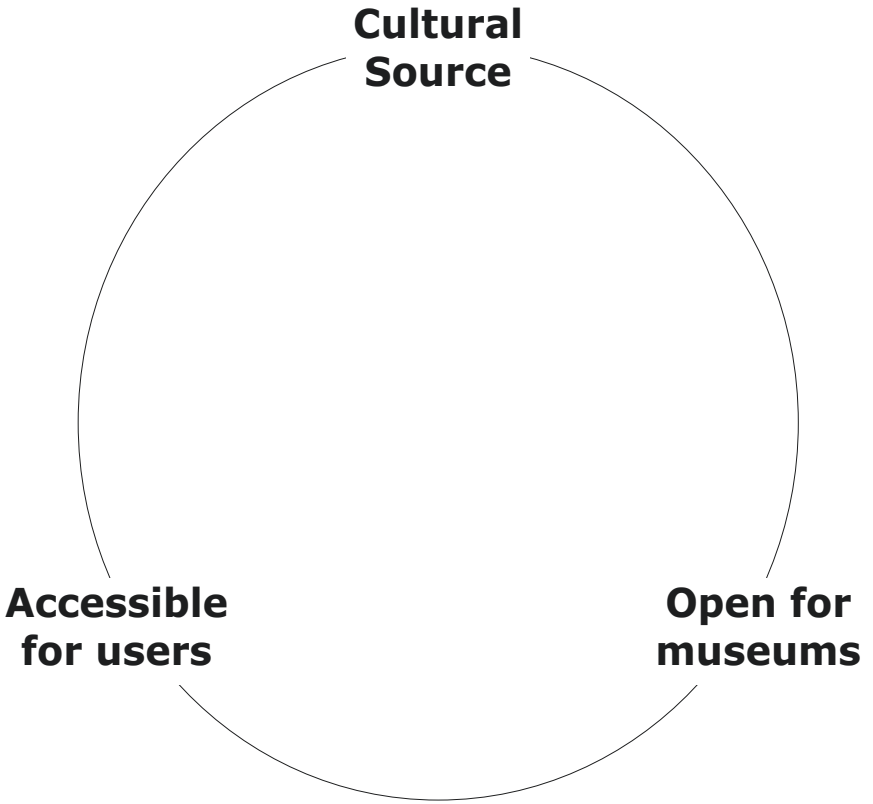
secure path towards the implementation of technology on their spaces without risking their identity and ideology.

4. Design proposal

The creative process of the project design is shown and explained in this chapter.
The design proposal comes from taking into account the current technological situation that involves museums, open and cultural resources, education and its access to people.
As stated in the preface, the prototype will be based on findings derived from the case study. Nonetheless, the complete concept and statement of the whole project will be explained in the following pages.
The wireframes and prototype part of this chapter can be tested on-line, the links can be found on the endnotes.

4.1 Foundations

After understanding museums, their sense and how they had changed with the years because of the appearance of new media into their systems. It has been stated that, due to our current cultural context, a way of engaging and improve museum visitors is through a digital platform.
After discards, this thesis comes to the conclusion that this digital platform, on the side of users, should be a mobile application. As shown earlier, the rise of digital technology has led to a situation in which a higher percentage of the population owns or has access to mobile devices that allow the use of a mobile application in their daily basis. Consequently, it is necessary to embrace the banal and constant use of cellphones by visitors, approach that channel as an opportunity to establish a link between the museum and them, then use that as a space to install a digital service. In this case, the service that we are looking for is a platform that allows museums to have their collection online, and also the possibility for any person that goes to their collection to browse freely through it. Furthermore, the main point of this idea is to create a digital service that opens educational resources for people. Promoting the (now) radical proposal of democratization of education on the online context and its materials to being an open, easy to access and a free source. The foundations of the design proposal run on three concepts: an open platform for museums to build, accessible space for users and being perceived as a cultural source [Fig. 11].
As shown before, most of the time museums struggle with funding, personnel and the comprehension of the background from people outside their context. Therefore, the possibility of creating a custom-made system for them to show the collection and information implies high costs, funding, and collaboration with external companies. Instead, these extra resources could be invested in the digitization work or other issues. Because of this, this proposal aims to be an open-access platform where any museum is able to build an online catalog of their own



[Figure 11] Core concepts for the design proposal.

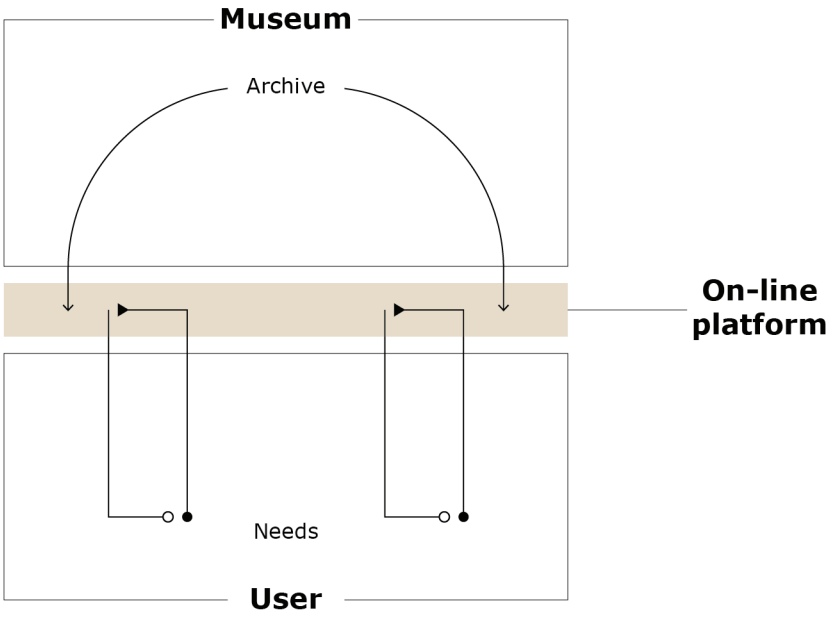
collection and also brief guidelines to their space.
The following concept refers to how people need open access to recreational and educational material. It is on people's rights to get access to education and not look at this as a privilege. In the same manner, it is understandable that the perception of owning digital devices is a matter of privilege, but lately, the access to these devices and other sources could be granted by different public entities. Under this context, the design proposed takes into account the variety of backgrounds that the user and uses that it may have. In addition, contemplates the idea of openness respecting users' privacy and not interposing boundaries between what the user wants to take out from the experience and themselves. In other words, in this mobile application the creation of profiles, usernames, linking emails, and so on, are not necessary.
Lastly, the perspective on this mobile application is to serve as an educational and cultural source for society. The use of this digital service is mainly for people to study and learn from it and also it can be used for hobbyists or just curious people. To put it succinctly, it will be a digital space for transmitting the cultural heritage to everyone.

These working concepts open the question about, why would different entities participate on an open-access platform? Well, open access improves motivation to participate and engage. Museums and users get motivated in different ways. On one hand, museums get positive intrinsic motivation through recognition or awards from the community (Ye & Kishida, 2003, p.425.). Then, for the users, as Ye et al. (2003) state, learning provides them the satisfaction that motivates them to get involved along practical tasks that engage users through learning by doing. As an example of both ideas, the previous case study fits perfectly. In short, the Helsinki City Museum works integrating citizens involving them in planning, ideations and allowing them to participate in the exhibitions. In addition, users of the museums learn about the city and Finnish culture, they get engaged and involved.

To recapitulate, the foundational concepts of this project support the main points found and developed along this research. Once they were identified, these concepts started working as the main axes to the ideation for the solution to the first question stated.

4.2 Design

What this design proposes is to build, on one side, a digital service where museums are able to submit, categorize and show their collections to users. On the other side, users would be able to enter, browse and use museum's collections anywhere from their mobile devices. This service helps the museum to overcome the struggle of designing their own interface in addition to work on their archive. They will have a simple design that allows them to showcase their collection and introduce themselves online to different kinds of public, potential visitors and, also, users that are visiting the space and want more information [Fig. 12].
The need for building this digital service and design is to create an open access space for museums to showcase their archives and exhibitions. As previously said, nowadays we should share museums' collections to the world, no matter their size or category. One way to do this is to embrace the era and rise of new media on the museological context,



[Figure 12] Design's diagram.

create a digitized bank of their pieces and uploading them for people to use, share and study.

The interface design is based on the "universal usability", a concept used by Hertzum (2010) defined as an image of usability that aims for use from a general population, where a design system it is designed to be usable for users from any background (p.2). Hence, this requires to take into account human nature and its interaction involving cognition. Ward (2006) defines cognition as the "variety of higher mental processes such as thinking, perceiving, imagining, speaking, acting and planning." (pp.1-2). This is certainly true in the case of the interaction with user interfaces: the user goes through different stages of mental processes to get to the goal that was aiming from the use of the interface. These stages of action, as Norman (2013) defined them, are first forming the goal, forming the intention, specifying an action, followed by executing it, then perceiving the state of the world, interpreting the state of the world and finally evaluating the outcome (p.41).

When it comes to design the user interface there are a few points to take care. An important point is short-term memory, which is defined by Ward (2006) as a kind of memory that holds information during actions and that has limited capacity (p.196). This means that while people use devices, short-term memory is the one working while they browse through the mobile application. Furthermore, among the points that Shneiderman & Plaisant (2005) when the write the "golden rules of interface design" there is number eight, where they state that the interface design should remain simple with a certain amount of elements to reduce the short-term memory workload (p.75). As a result of it, this first stage of the design, workflows, and wireframes of the proposal are shown and the visual identity is planned to be simple enough to enhance the browsing and reading of the data. In the following paragraphs, both sides the design will be illustrated and explained.

Firstly, from the side of the museum, the entire interface

design is focused on uploading and managing data of the collection [Fig. 13]. For this purpose, this side is meant to be used on a computer in order to have control and connection with the museums' files. The museum can also add basic information about them such as contact, about tickets, opening hours, vision or any other brief information about them along with their own website and social media profiles.

The system works through labels that the user puts on each piece that is uploaded. These labels categorize the pieces on the system archiving them on the exhibition, collection, types, and subtypes that they belong.

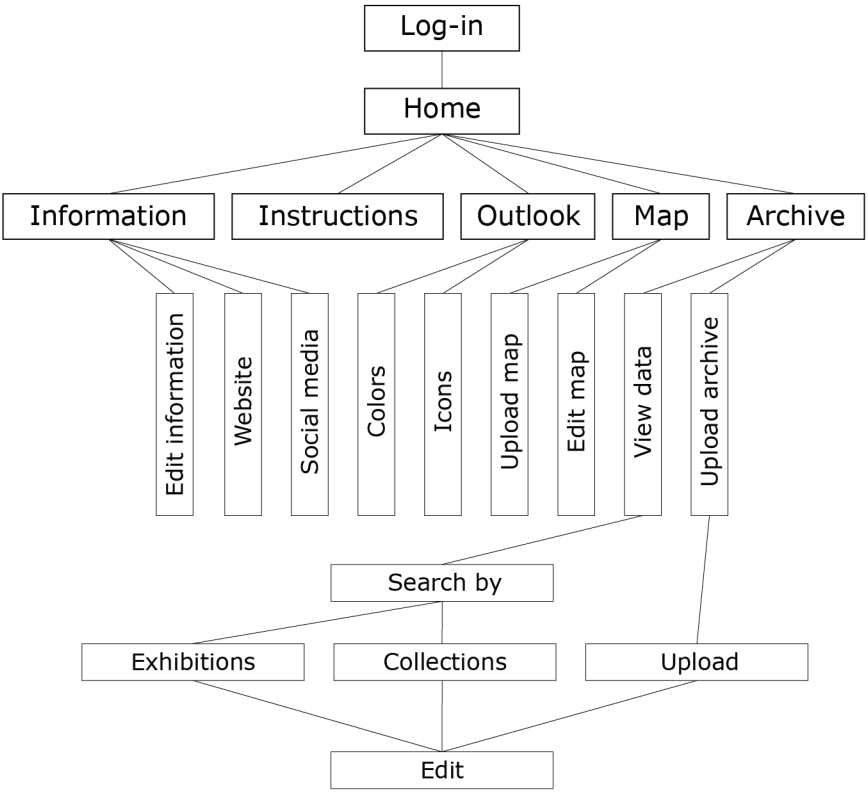
As the initial idea of this project points towards a generic system for museums, this first proposal tries to not lose that notion. Therefore, categorizations for labeling and organizing the archives are proposed. These are "types" which can be big groups such as images, videos, and so on. Then, inside types can be "subtypes" that add more specific characters to the pieces, following the past examples, subtypes of images can be photographs, paintings, sculptures, among others. This way the museum can differentiate different categories and makes their archive narrower.

For the visual side, there is a section where museums can add their logo that will appear later on the mobile version. In addition, they can add a certain amount of colors to match their visual identity. At the moment, this section needs more work research. Hence, just a default amount of colors has been added to illustrate the point.

The overall navigation is meant to be simple to enhance the work process due to the amount of work that digitization and categorization of archives require. The following section of this thesis illustrates more details and ideas with wireframes.

On the other hand, for the user side, the workflow attempts to be simple for the users' browsing and intuition [Fig. 14]. The interface allows the user to navigate freely through the archives with two main different categories: exhibitions and collections. The material that each contains is according

Museum’s workflow



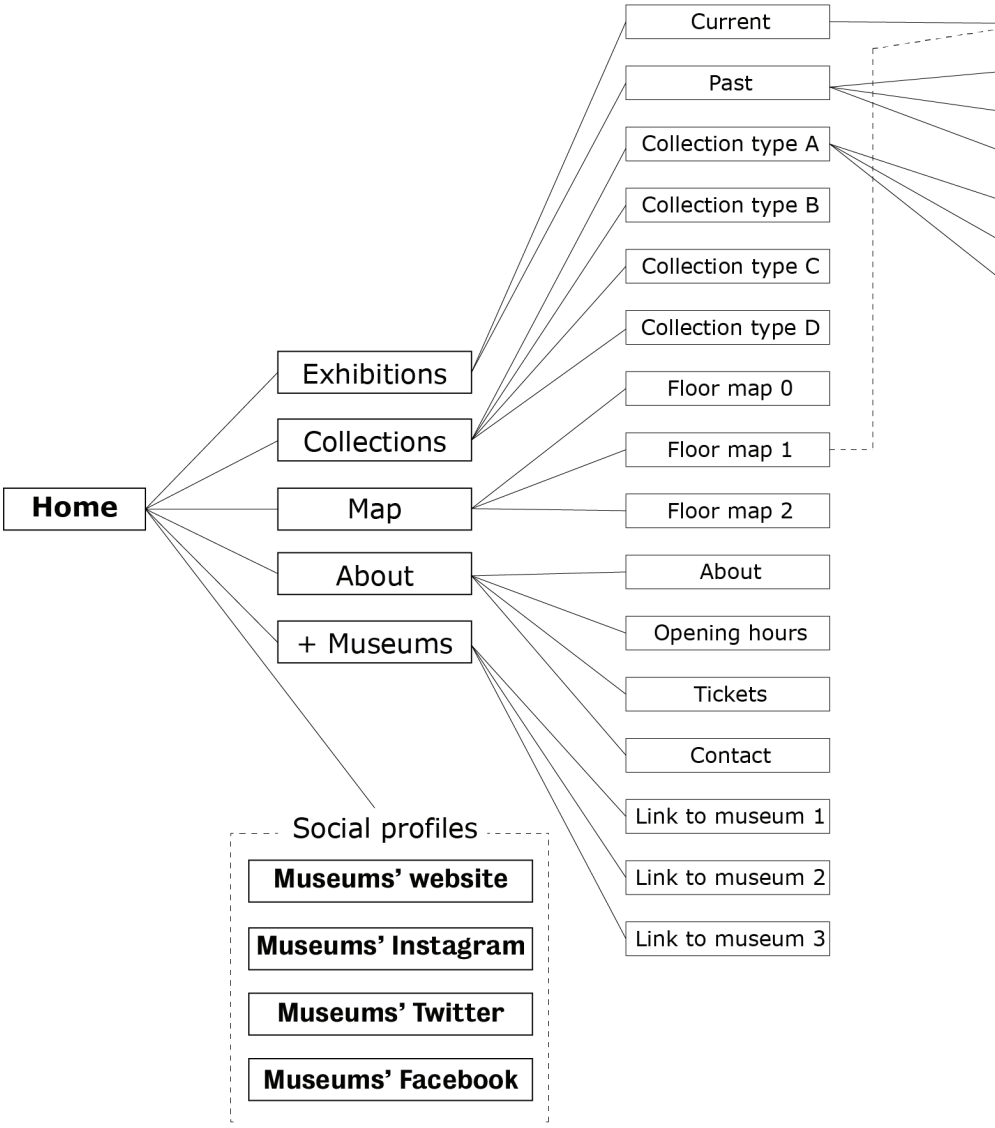
[Figure 13] Museum’s workflow

to what each museums categories and upload to their system. The navigation starts with the most general view and goes towards more specific information meeting the requirements from the user. In the end, the user can find a screen only for a piece that contains all the information with a brief introductory text. In addition, on this screen is possible to share the archive to different social media and also send the files with information to the users' email. Then, users get the material on the email freely to use.
The interface and functions of both sides will be explained further on the following section along with wireframes as a way of illustration.

Customer journey
To illustrate deeper the usage of the design, the following table illustrates the customer journey in two cases. These cases are based on the previously proposed categorization of times where museums and users meet: inside [Fig. 15] and outside [Fig. 16]. Both tables show the relation between the service and the user under different contexts. The table illustrates end-to-end experience that shows when the user considers using the service, uses it and also, as an alternative path, disruption during the usage.

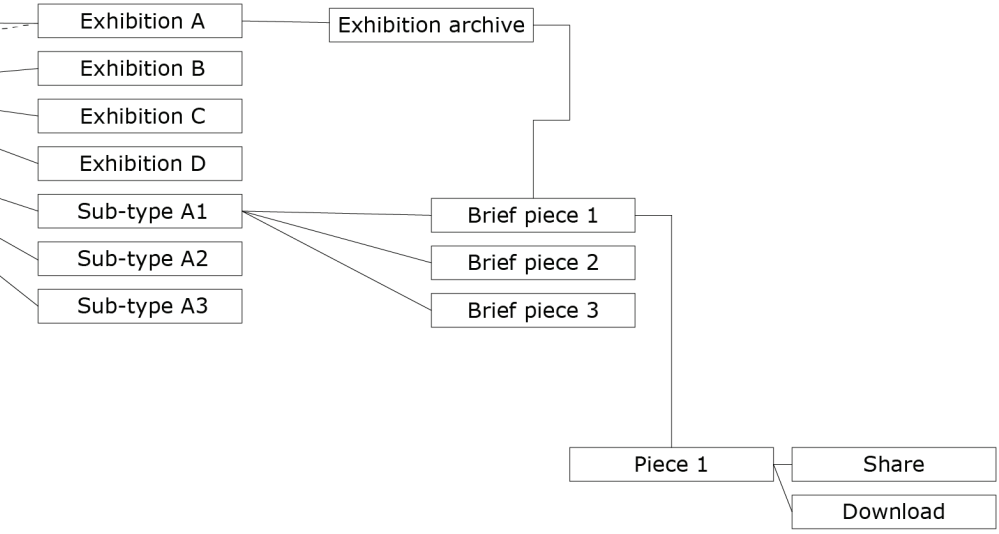
The challenge now is to build a coherent visual design that follows the previous system and aim exposed. While the following section shows a structure and flow of functions and features, the current stage of visual design needs deeper research and work. Nonetheless, the core concepts and notions of the proposal have been stated so the visual design and deeper details are expected to be researched further after this thesis.

User's workflow



default

[Figure 14] User's workflow


Exhibition A
Exhibition B
Exhibition C
Exhibition D
Sub-type A1
Sub-type A2
Sub-type A3
Exhibition archive
Brief piece 1
Brief piece 2
Brief piece 3
Piece 1
Share
Download

Customer journey inside museums.

	Before			
	Aware	Information	Consider	Decide
User	In one of the rooms of the museum sees an insteresting piece. He/She would like to have more information about it but can't to buy the catalogue of the exhibition.	At the entrance of the museum saw information about getting open access to the museum's material through mobile phones.	Thinks about using that option because never tried before and may have what he/she is looking for.	Decides to try the website and takes phone in the room.
Touchpoints	Museum.	Museum, website advertisement and pieces in museum.	Museum, website advertisement and pieces in museum.	Website and museum.
Non-tangible aspect:	Interests and curiosity about more information.	Wonders how the system works.	Thinks is a good idea to use the website. Seems like the a reliable option and interesting.	Decides to use the website on his/her phone.

[Figure 15] Customer journey inside museum.

During		After
Get	Use	Keep using
Types the link and get into the website.	Browse through the archive on the website, get to the piece, sees that it has more information that would like to read afterwards and send the files to his/her email.	Keeps visiting the museum. When is back home, checks his/her email and read more about the piece that he/she liked.
	Incident	Leaves
	Browse through the archive on the website but cannot find to the piece liked. The archive is not fully uploaded yet	Decides search in Google once he/she gets back home.
Website, archives and museum.	Website, archives and museum.	Museum through email and website.
Excitement and curiosity to use a new tool.	Excitement to find what he/she was looking for.	Happy of getting extra information from a reliable source and through easy steps.
	Frustrates after not finding what it is needed.	May not search online, seems like a struggle and it is hard to find reliable sources.

Customer journey outside museums.

	Before			
	Aware	Information	Consider	Decide
User	Thinks about getting some images of a certain artwork for a work.	Knows about a museum in another country has the artpiece. Through internet knows that the museum has an open access archival that can be accessed through the phone.	Thinks about using that option because is the only way to get the required files in good quality.	Decides to use that option. Takes the mobile phone.
Touchpoints		Website, Social Media	Website	Website
Non-tangible aspect:	Wondering.	Curiosity about the archives and how the system works	Thinks is a good idea to use the option. Seems like the only reliable option.	Desire to use the website.

[Figure 16] Customer journey outside museum.

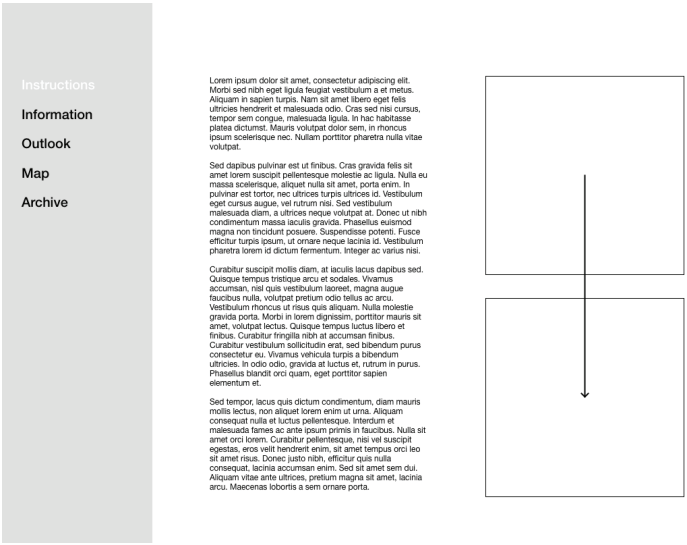
During		After
Get	Use	Keep using
Types the link and get into the website.	Browse through the archive on the website, get to the artwork needed and send the files to her/his email.	Uses the images for the work.
	Incident	Leaves
	Browse through the archive on the website but cannot find to the artwork needed. The archive is not fully uploaded yet	Decides to get an image of the artwork from a random website with a low quality and no information about copyright licenses.
Website, archives	Website, archives	
Excitement and curiosity to use a new tool that will solve search.	Excitement to find what he/she was looking for.	Happy of using images with good quality and through quick steps.
	Frustrates after not finding what it is needed.	Frustation for using low quality images.

4.3 Wireframe

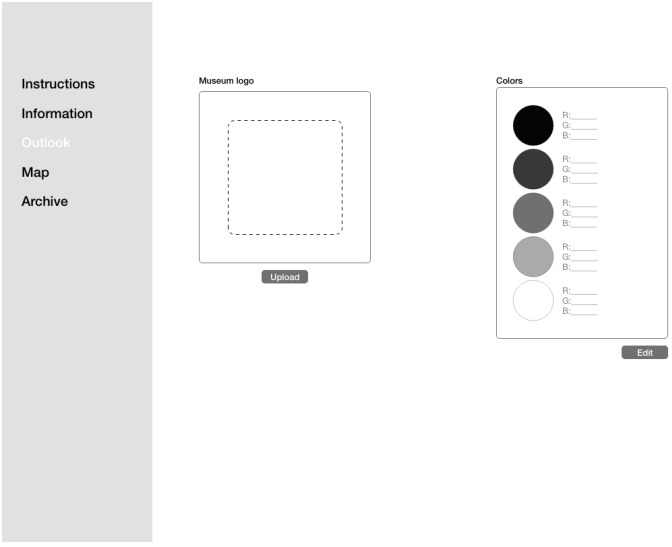
This section shows the wireframe of both the museum and the user side. Wireframes give an idea of structure, functions, and relations between features. Despite being a wireframe, the following images go further on details showing also sections mentioned in the previous section.
The initial process of the wireframe construction were sketches and the ideation of the workflow.
It is necessary to mention that some features need deeper research and others may be missing. However, the current state of the design illustrates the core structure and functions.

The illustrations on the right and on the following pages show how the screens for museums[7] would look like.
On the top right illustration [Fig. 17], it shows a section with instructions. Then, on the other illustration [Fig. 18], it shows one of the main ideas of this proposal: museums are able to customize the outlook of the mobile application with the colors of their own visual identity. In this case, five colors are proposed and they work on different sections in the application. In addition, this section is possible to add the logo of the museum that will be shown on many screens and will work as a button to return to the home page for the users.

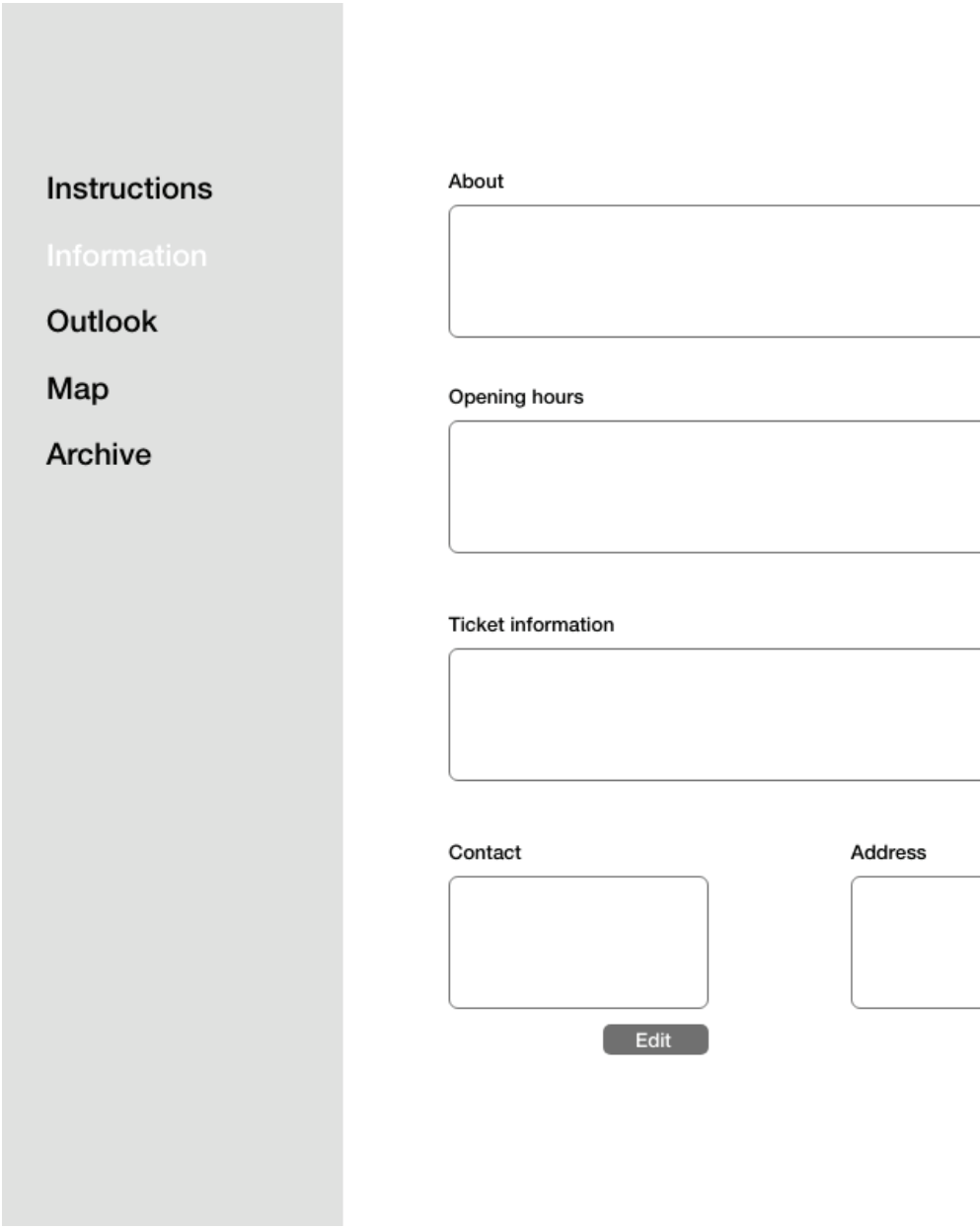
The following following image [Fig. 19] shows where museums can add all their information that goes under the "about" section and also their social profiles that are linked with their respective icons in the mobile version.
The addition of information is meant to be simple so the person in charge of editing and adding should press in "edit", write down or edit what is needed and then save. This would be updated automatically for the other end.



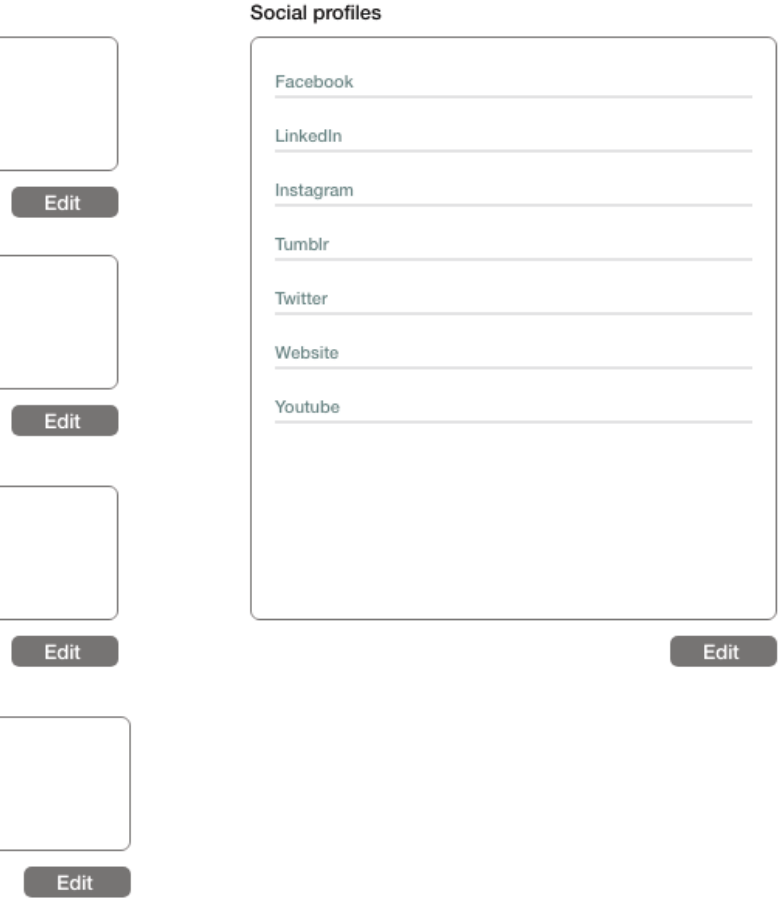
[Figure 17] Initial page, where instructions are given.



[Figure 18] Visual outlook editing page.

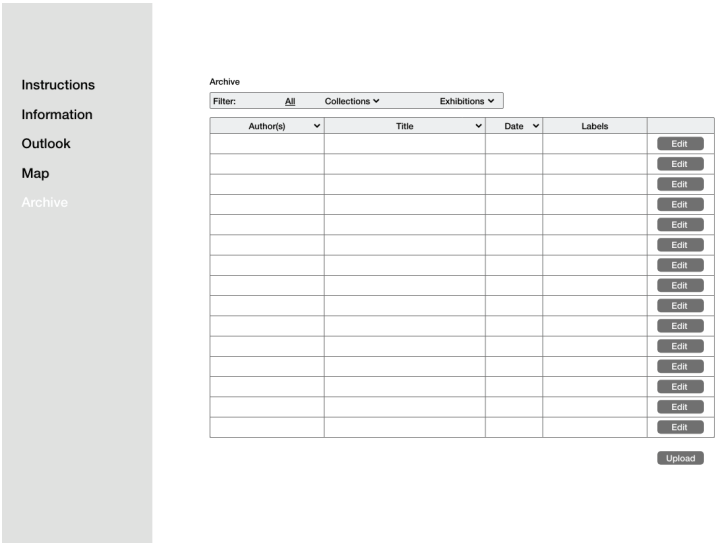


[Figure 19] Information page.

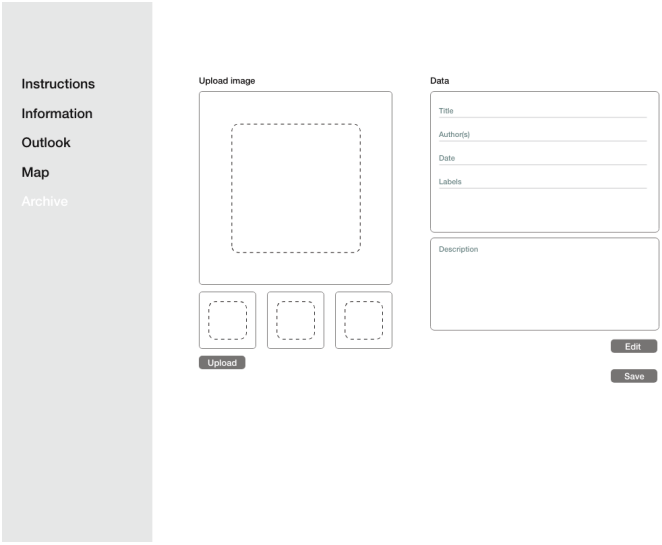

Edit
Edit
Edit
Edit
Social profiles
Facebook
LinkedIn
Instagram
Tumblr
Twitter
Website
Youtube
Edit

In this case, the illustrations correspond to adding and editing files to the archive. In the illustration on top [Fig. 20], we can see the whole archive. The table shows the main information such as author(s), title, date, and labels and they can be sorted in different ways.
Labels are the most important feature on the archival process, according to these labels is where their files are shown. For example, if we add the label "Exhibition A" in a file, then when we search for the exhibition A, that file will be stored there and the same way for the user and the connection with the map. Furthermore, when a floor map is uploaded, it is possible to add labels also to link each floor with their respective pieces shown.

Once you click in the "Upload" button, it directs you to the screen shown in the bottom [Fig. 21]. There is possible to upload up to four images with the main one. In addition, is possible to add the labels and the whole information of the piece.
The button "Edit" on each piece in the table also leads you to this kind of screen but with information of the piece selected to edit or add more information.
The edit and save features work the same ways as the previous screen described.



[Figure 20] Archive table page.

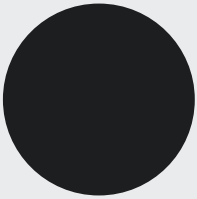


[Figure 21] Archive uploading page.

[Figure 22] Home page

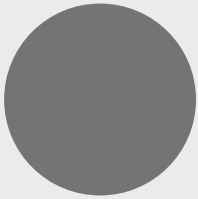
Now we will go through the screens that the users see on their mobile devices[8]. In the image on the left [Fig. 22], you can see the home page of the application. This is the first screen that the user sees.
The white square in the top corresponds to space where the logo of the museum is placed. As said before, this logo works as a button that directs to this screen later.
The links to other pages on this screen comes as default. All the museums should fill the information for the sections "Exhibitions", "Collections", "Map" and "About". On the other hand, "+ Museums" leads us to a page where different museums that use this platform are shown and linked. This way, the user can browse further on other topics and museums, but at the same time be aware of other archives available.
In the bottom is placed different icons that lead to the social pages of the museum.
On this screen and the application is still missing a way of changing the language of the interface. This is something that should be included in order to facilitate this service to many people as possible.

Colors



#000000

#383838



#707070

#A9A9A9

#FFFFFF

Character styles

Titles
Helvetica Neue Bold 30 pt

Titles
Helvetica Neue Bold 30 pt

Subtitles
Helvetica Neue Regular 20 pt

Subtitles
Helvetica Neue Regular 20 pt

Large Body
Helvetica Neue Bold 14 pt

Large Body
Helvetica Neue Bold 14 pt

Body
Helvetica Neue Regular 14 pt

Body
Helvetica Neue Regular 14 pt

Secondary Body
Helvetica Neue Regular 12 pt

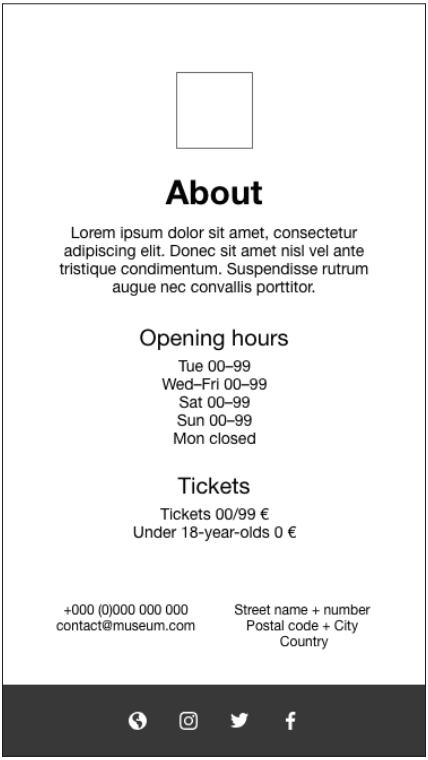
Secondary Body
Helvetica Neue Regular 12 pt

BUTTONS
Helvetica Neue Bold 11 pt

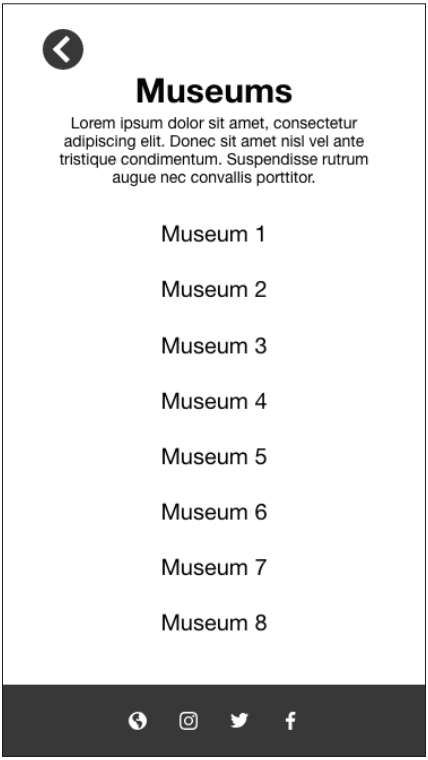
BUTTONS
Helvetica Neue Bold 11 pt

As said before, this service provides a certain amount of colors for museums to use them with their own visual identity. On the left is possible to see the different colors used for this wireframe.

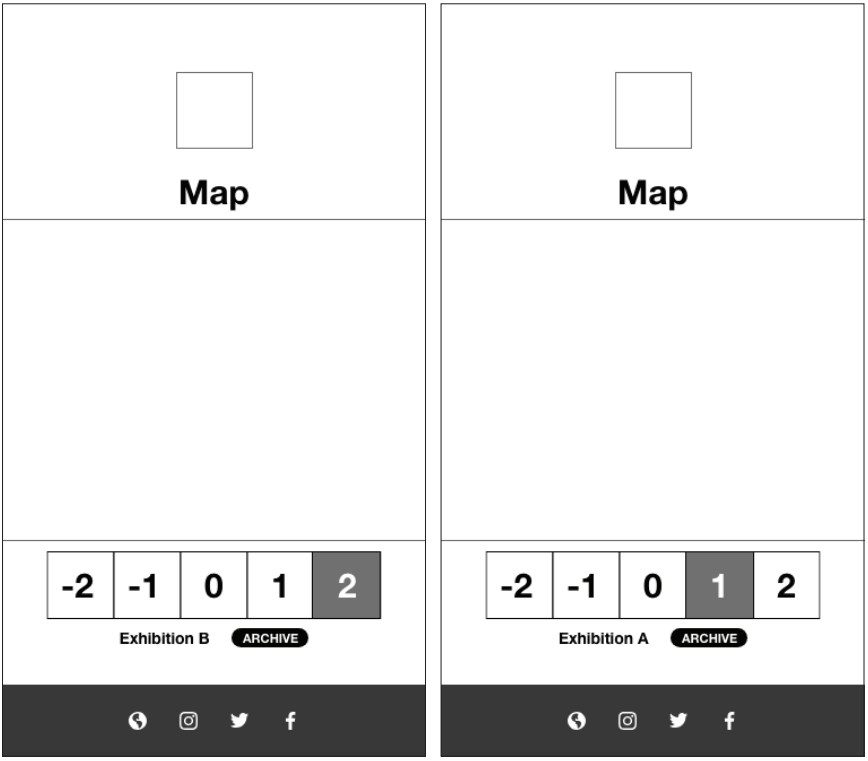
In addition, on the left is shown the character styles for different features on the application. Unlike other features, the colors on the characters cannot be customized.



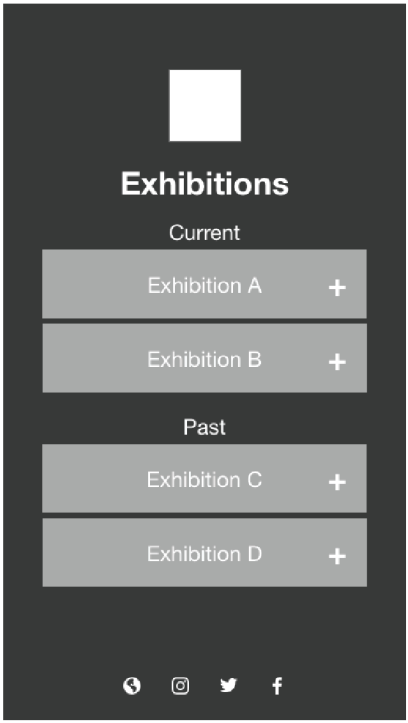
"About" page.

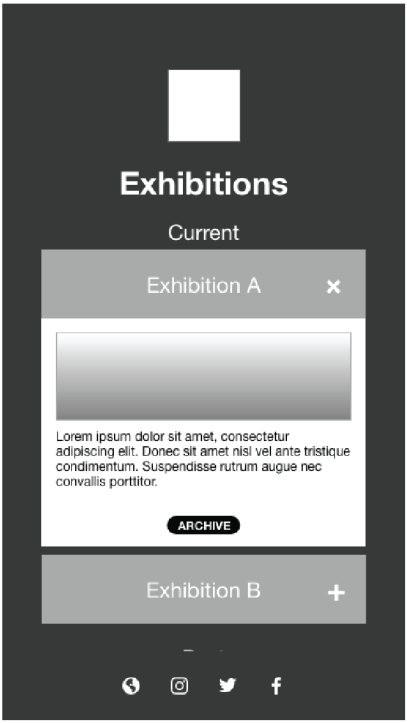


"+Museums" page.



"Map" page, shows floor maps, exhibitions in them and logo of the museum.





Collections

Collection type A

Collection type B

Collection type C

Collection type D

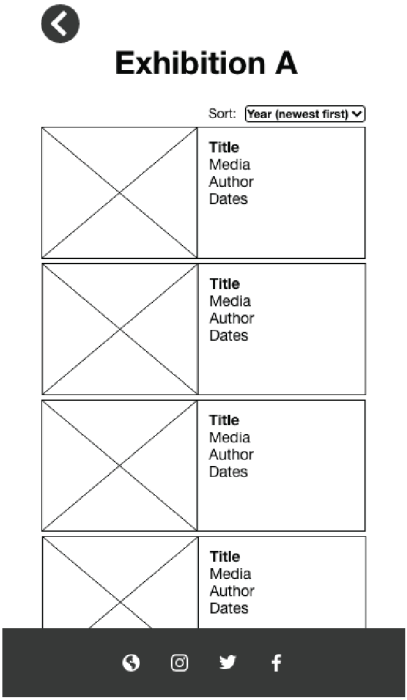
Collection type E

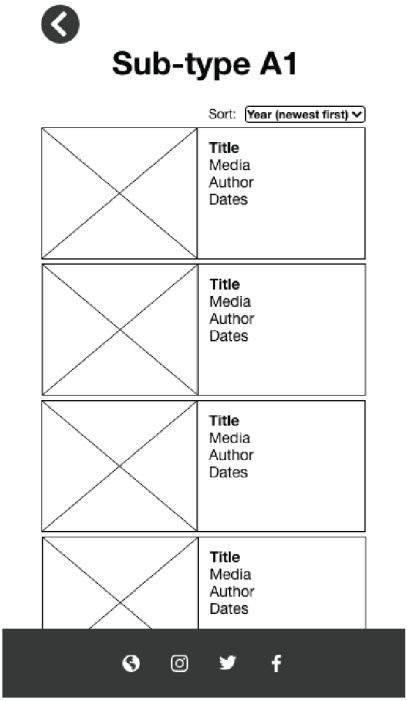
Collection type A

Sub-type A1

Sub-type A2

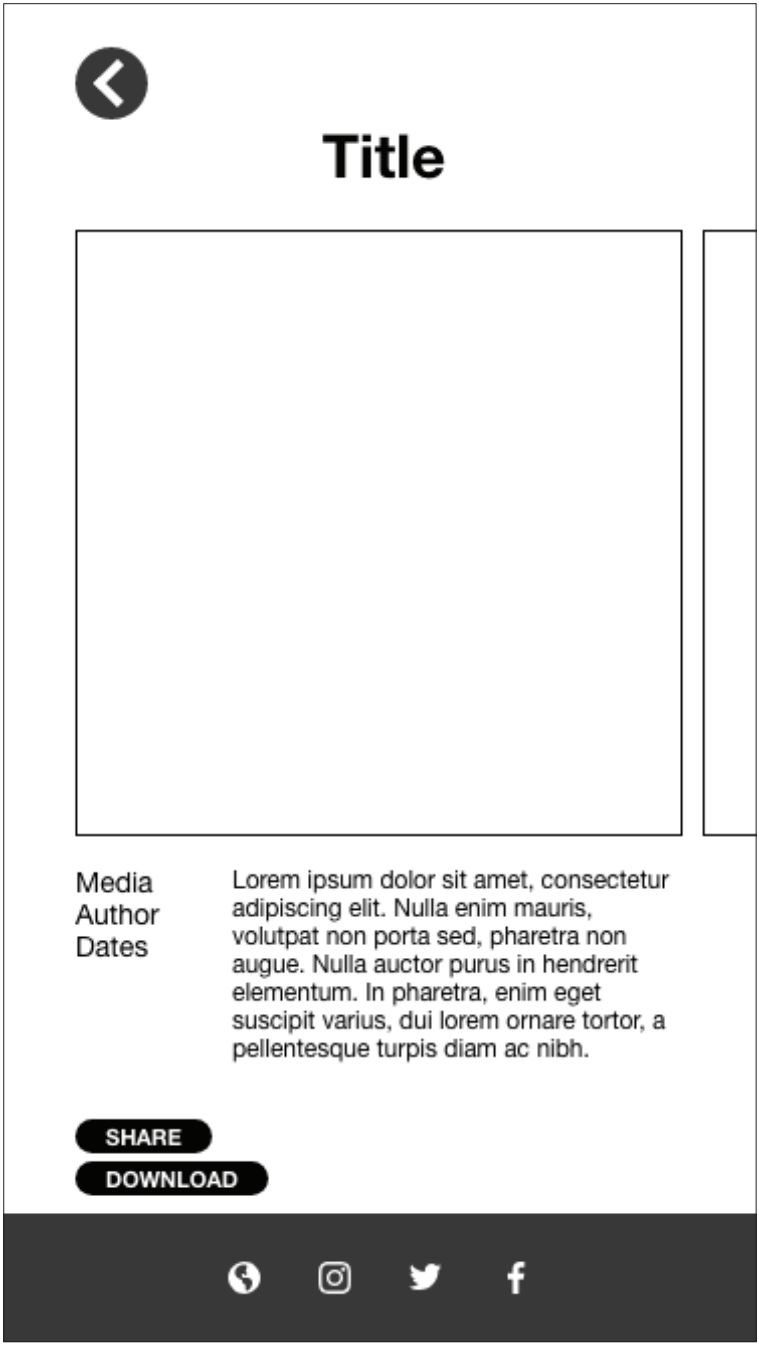
Sub-type A3





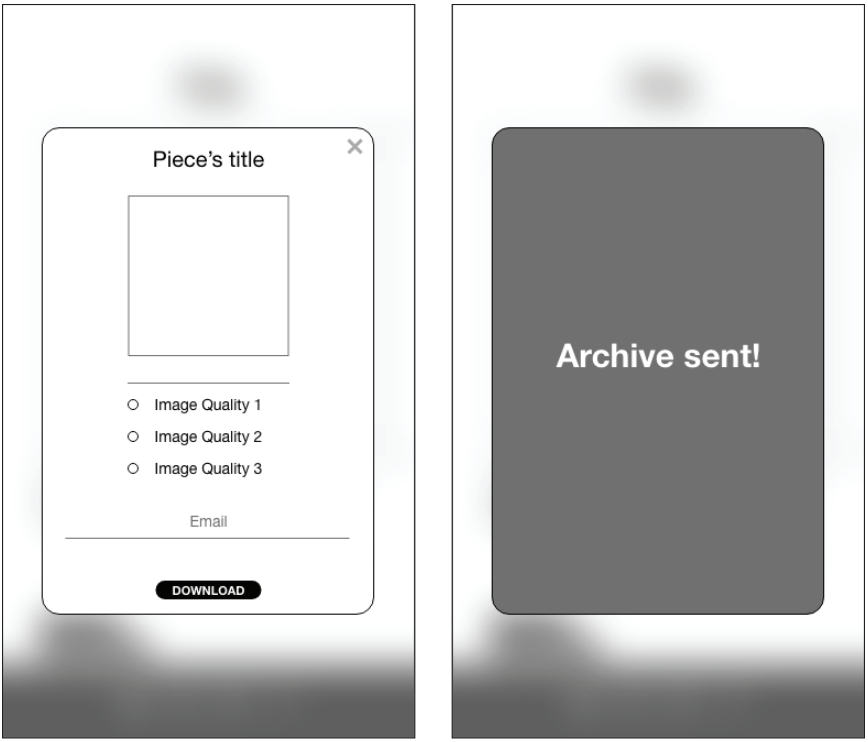
Both paths, Exhibitions and Collections, lead the user towards a specific piece.

To clarify, the difference between "Exhibitions" and "Collections" here is their inner categorization and purpose to be showcased. Moreover, collections can have a certain type of culture or material. On the other hand, exhibitions may be more specific and include pieces from different collections. For example, an exhibition about "representations of fertility" can have pieces from a collection of Mesopotamia but also from another one about Greek culture.



[Figure 23] Piece's information page.

The image on the left [Fig. 23] shows how the structure of every piece would look like. It is possible to see more than one image of it swiping left or right. It also has the main information and data of the piece. There is also two main feature of this service: "share" and "download". Firstly, "share" leads the users to the sharing feature of their devices to send or upload the files however is wanted. And second, the feature "download" leads the users to a screen [Fig. 24] where they can select the quality of the image they want to download and send to their e-mail. After sending it, the users will have on their email box the piece with a quality required and also all the information in text format freely to use.

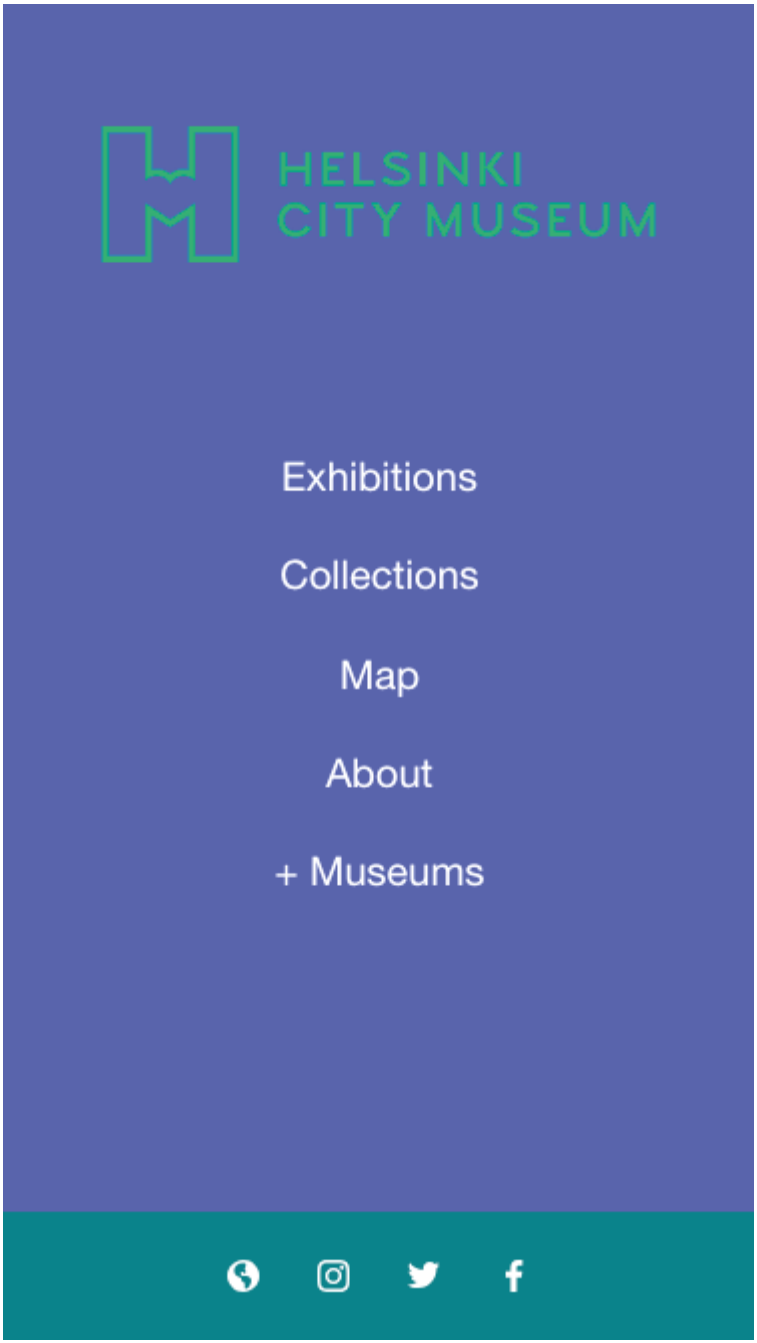


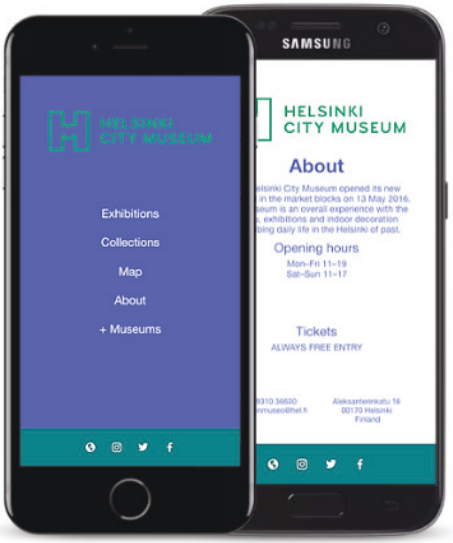
[Figure 24] Download screens.

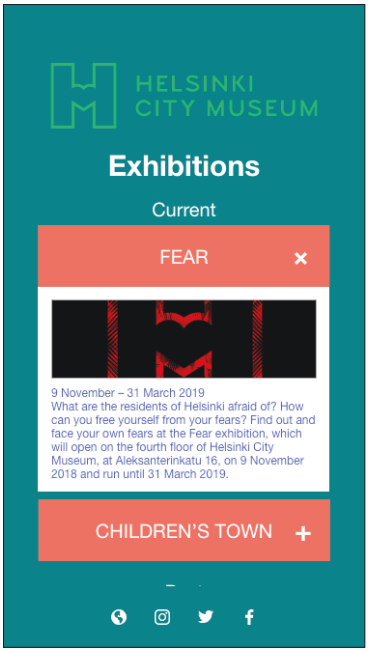
4.4 Prototype

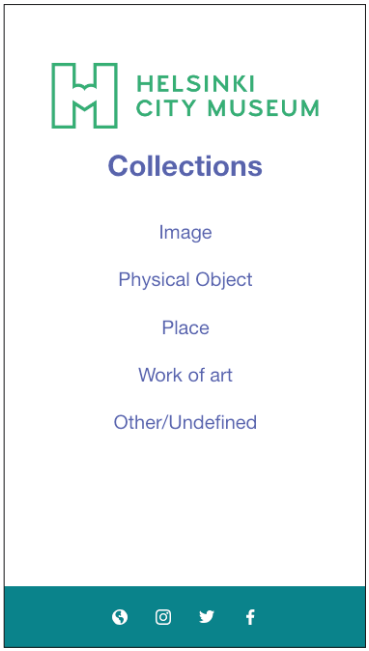
By way of illustration, this section shows the previous wireframe using the data of the Helsinki City Museum[9]. Since the museum side is mostly a platform for them to upload data, this prototype only shows the user side. Hence, this is a first glance of how the design proposed would work for the users.
The logo, colors [Fig. 25], information and the image for the exhibition section were taken from the museum's website. The images and their information for the "collections" sections were gathered from Helsinki City Museum's Finna[10].

[Figure 25] Logo and colors from the Helsink City Museum.


HELSINKI
CITY MUSEUM
Exhibitions
Collections
Map
About
+ Museums


HELSINKI
CITY MUSEUM
Exhibitions
Collections
Map
About
+ Museums
SAMSUNG
HELSINKI
CITY MUSEUM
About
Opening hours
Mon–Fri 11–19
Sat–Sun 11–17
Tickets
ALWAYS FREE ENTRY


HELSINKI
CITY MUSEUM
Exhibitions
Current
FEAR
9 November – 31 March 2019
What are the residents of Helsinki afraid of? How can you free yourself from your fears? Find out and face your own fears at the Fear exhibition, which will open on the fourth floor of Helsinki City Museum, at Aleksanterinkatu 16, on 9 November 2018 and run until 31 March 2019.
CHILDREN'S TOWN


HELSINKI
CITY MUSEUM
Collections
Image
Physical Object
Place
Work of art
Other/Undefined

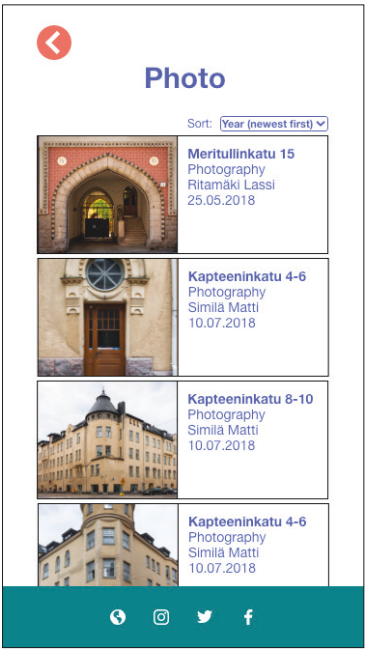
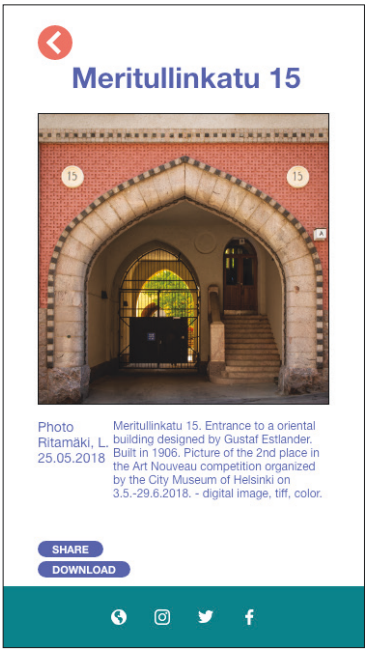
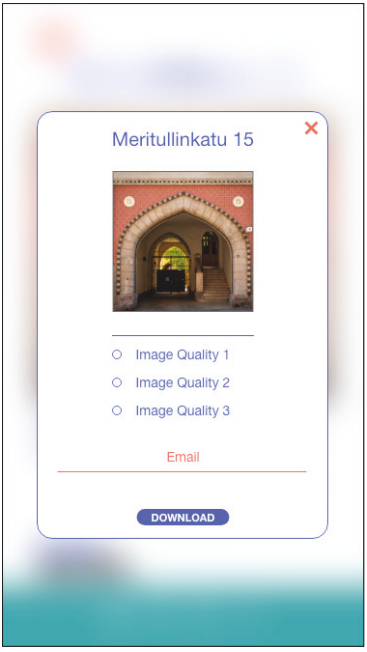
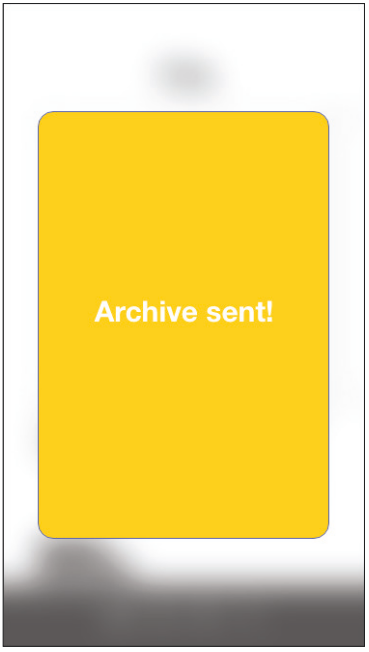


Photo
Sort: Year (newest first)
Meritullinkatu 15
Photography
Ritamäki Lassi
25.05.2018
Kapteeninkatu 4-6
Photography
Similä Matti
10.07.2018
Kapteeninkatu 8-10
Photography
Similä Matti
10.07.2018
Kapteeninkatu 4-6
Photography
Similä Matti
10.07.2018


Meritullinkatu 15
Photo
Ritamäki, L.
25.05.2018
Meritullinkatu 15. Entrance to a oriental building designed by Gustaf Estlander. Built in 1906. Picture of the 2nd place in the Art Nouveau competition organized by the City Museum of Helsinki on 3.5.-29.6.2018. - digital image, tiff, color.
SHARE
DOWNLOAD


Meritullinkatu 15
Image Quality 1
Image Quality 2
Image Quality 3
Email
DOWNLOAD


Archive sent!

5. Discussion

An initial objective of the thesis was to find reliable sources that could backed up the idea of how is possible to use technology to attract and engage museum visitors on the delivery of their information. After that, as a way of proving on a real case that the use of technology has their advantages, the Helsinki City Museum was analysed. The findings on the museum brought deeper elements to take into account at the moment of considering the implementation of digital devices into the exhibition spaces. In addition, it added the relevance of open access material and the value of users as active members of the society.

Along the thesis, its base ideology, moved by three main concepts remained as a critical point of view towards findings and the ideation process. After reflections, this research no only needs a bigger scale of study cases and further prototypes and tests for the user interface and interaction on the deliverable product, but also needs to crystalize and have a bigger support on the political side. At the end, the core idea, opening museums and their material to people, talks about changes on cultural and social layers, where the big picture is about taking down boundaries for people to learn. Thus, this design proposal works with the idea of accessibility of this educational resources allowing museums to showcase and transmite the cultural heritage the they preserve to the society.

There are plenty companies that offer museums and galleries to design custom-made mobile applications such as GuidePilot, that only focus on that service. Of course all of them are paid services where problems in co-creative projects can emerge, as found in the study case. There is no question also that this would be a problem for every museum and cultural entity due to fundings issues and one of the main points that motivated this thesis, being open.

In conclusion then, this initial proposal aims for a long-term projection where bigger entities needs to get involved.

6. Conclusion

The purpose of the current study was to determine how necessary is give to museums a digital tool to showcase and spread cultural heritage. Under the study of the current context and evolution of digital technologies in the museological spaces, it was proven that under the contemporary social context is possible to approach museum visitor through their constant use of mobile devices. As a way of proofing in a real case, the Helsinki City Museum was a valuable case to study. Being limited to one study case, this study lacks a general view that would promote the initial plan of this project thesis. However, the analysis on the HCM allowed this research to find ramifications that should be taken into account and also additional perspectives towards the engagement and participation of museum users.

This study has identified different categorisations that help to conceptualise the museum experience, those are the differentiation on how museums and visitors interact: inside and outside the museums' spaces. In addition, identified core values that should be considered on the articulation of the behaviour of museums in relation within itself and their users when it comes to install a mobile application: accessible for users, open for museum and perceived as a cultural source.

Consequently, the previous studies supported the ideation process of the design proposal. There, it was considered different points in the interface design where the main essence was the universality of the users and museums.

A natural progression of this work would be to analyse more study cases with different backgrounds in order to map generic needs that could be improve. At the same time, as said previously, considering the social context and the point of view from political and cultural systems towards museums in the research is substantial to understand the context in which museums are placed and to proof the feasibility of implementing the project.

7. Endnotes

1 http://www.helsinginkaupunginmuseo.fi
2 www.hermitagemuseum.org
3 https://www.didrichsenmuseum.fi/collection/
4 https://artsandculture.google.com/partner?hl=en
5 https://hkm.finna.fi
6 https://www.helsinkikuvia.fi
7 https://adobe.ly/2D1BAAp
8 https://adobe.ly/2VBmpoM
9 https://adobe.ly/2UmGYZT
10 https://hkm.finna.fi/Search/Results?sort=main_date_str+desc&type=AllFields

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